

1921

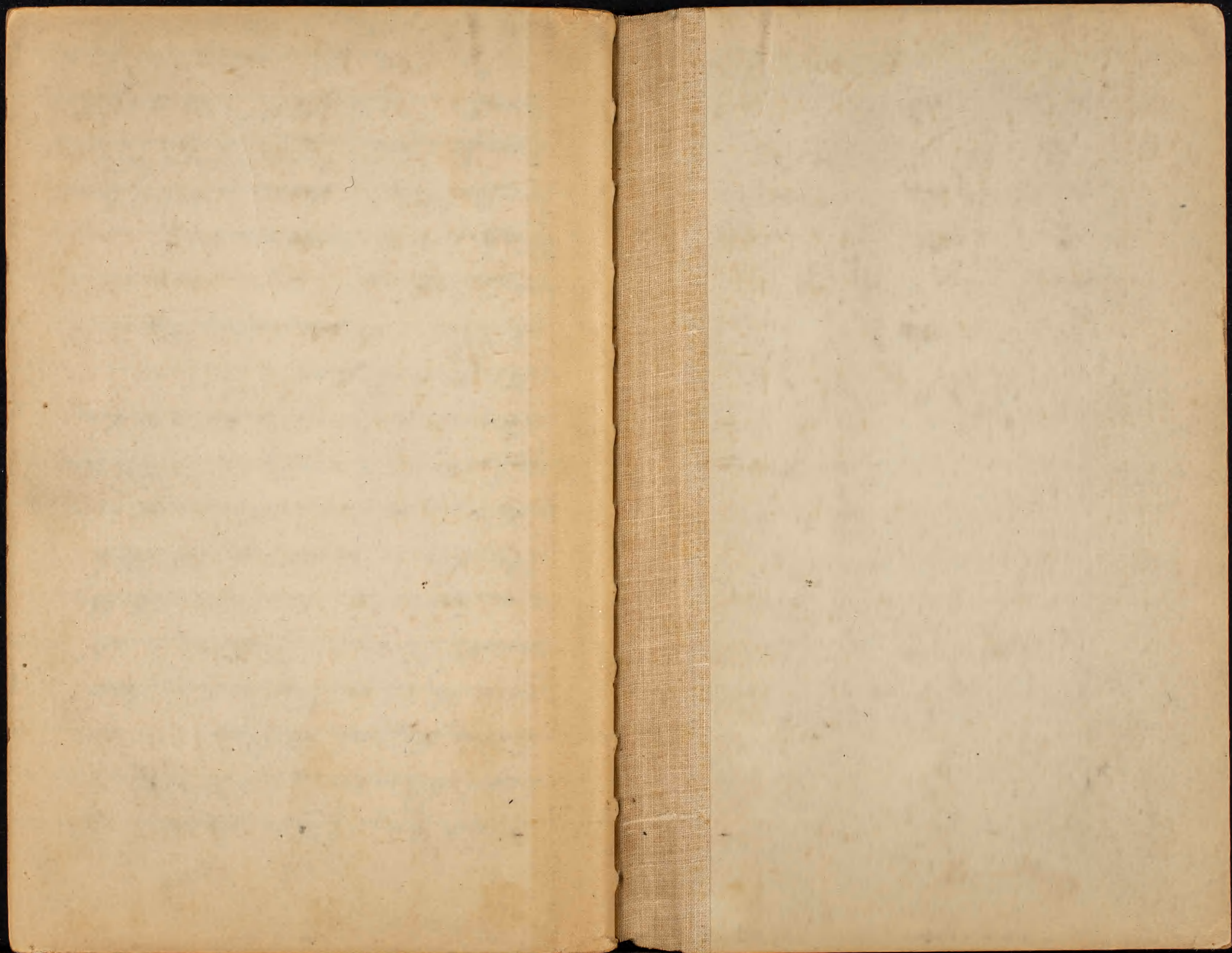
Audubon co. - Sep. 20. 22



B. Shimek

Iowa City, Ia.

Reward for return
of this book.



Sept. 20, 1921 - Tues.

Left Tharsis at 9³⁵ am.

Dove N. in Shelby co.

1 1/4 mi. - This is over the rolling, loess-covered Kansan which is much the same over all N. eastern Shelby.

The day is bright, after the storms of yesterday, and a strong wind is blowing. Turn E. 1 mi. to county line. Enter Audubon.

Begin numbering miles on co. line,

We go on E. here.

1, 2, 3, 4, 5, - all in rolling Kansas.

5 3/4 Inm S. 3/4 mi.

6 $\frac{3}{4}$ July 8. 1 mi. to Gray 1 mi.

7 $\frac{1}{2}$ Turn N. ³ 4 mi. } The region N. E. of Gray
8 $\frac{1}{2}$ Turn E. 1 mi. } begins to show flatter
9 $\frac{1}{2}$ Turn N. } ridges. It is much less
 } rugged, To county line

10 1/2 - In Carroll co. - The country in this part is quite rolling, a little more so than

right at Gray.

Turn E. From just beyond the turn, to

the N., the view from top of ridge shows good rolling Kansan. Drift shows here and there on slopes, & evidently the loess capping is similar to that S.W.

N.E. The surface is still rolling, but in the distance seems to flatten somewhat.

11½. This mile shows drift (boulders) in road, and evidently the veneer is very thin.

Turn S. to Co. line.

12½. This mile is still through rolling Kansan, quite rolling. The ground is still wet & colors are not clear.

On 2nd hill S. of turn I dug into a little bank on top of hill, about ½ below surface, & while the stuff

looks loamy, it is rather brownish, which may be due to wetting. The surface hereabouts looks loess-Kansan, but evidently very little loess.

13½. This mile is in Audubon, & is very like preceding.

Turn E.

14½. In this mile first (W) part is still quite rolling. Turn E. it is less so, & evidently the loess edge is ^{near} here, but it is not sharp.

15½. In this the loess-ken area is better defined, & the margin is properly located in W. ½.

16½. Almost all in Michna bottoms.

17½. Long gentle slopes. Drift shows on lower slopes. To Top line.

18½. Long gentle slopes - drift here & there.

19½ - Long gentle slopes - some drift,

20½ - The hill going up from creek toward E. end shows drift well up to the top. There seems to be only soil, a foot or so, on it at the top.

21½ - The country E. & W. & somewhat N. E., is now much rougher, but it seems to be without loess.

Certainly, if any is present it is very patchy.

In all this loess-less territory the corn looks small.

The hills (rises) between the branches of creek show drift to top. The ridges however, rise somewhat higher E.

There are two ridges between W. side rec. & creek, the W. one higher & on general level of higher uplands.

The other is lower. Both show drift to top, the high one with a little soil.

Between the forks there is a ridge which runs up W. about 25 ft. above road. Plowed ground on very top (which is on level with highest uplands) shows pebbles & small boulders. The road shows drift to surface also. This is quite rough.

E. of creek the 1st (lower) ridge shows drift, with a sandy yellow (clayey but much sand) layer, probably 5-6 ft., on the E. slope. Very certainly not loess.

The next ridge is right at cross-roads, & drift shows here to top. In fields there seems to be only a soil veneer, thin, & with occasional pebbles.

22 $\frac{1}{2}$ - A series of ridges in this mile
(this is still rough) show drift
(with soil) to the top of each

23 $\frac{1}{2}$ - Also shows 3 ridges with drift
as before.

Went $\frac{1}{2}$ mi. N. & from ridge viewed
broad valley of Brushy Fork. The
ridge shows a couple of feet of a
slightly brownish loamy stuff.

All this country, except broad valley
of Brushy Fork, is rough.

This brings us to Co. line.

Guthrie co

24 $\frac{1}{2}$ - The first ridge in the woods beyond
creek shows a yellow (modified?) drift
with pebbles, clear to top.

In the wood I noticed:

Quercus macrocarpa

" *rubra*

Ulmus am.

" *fulva*

<i>Carya (pignus)</i>	<i>Juglans nigra</i>
<i>Platanus glabra</i>	<i>Tilia am.</i>
<i>Corylus am.</i>	<i>Populus deltoides</i>
<i>Acer rubrum</i>	<i>Cornus paniculata</i>
<i>Carya (white)</i>	<i>Rubus alleghensis</i>
<i>Crataegus mollis</i>	<i>Prunus serotina</i>
<i>Green Ash</i>	

Along road - *Aster novae angl.*
Leptochloa cap.

On light soil:
Lophosiphum
Boa glabra
Salix amygd.

A smaller 2nd ridge shows drift

The bottoms are wide & flat.

25 $\frac{1}{2}$ Beyond the bottom (E) there are
gentle slopes & they show drift
well to top. At last one a gentle
slope up toward E. shows a yellow
lobular loamy(?) brownish stuff. See
Guthrie co. no. 1 sample) There seem to
be 3-4 ft. of this, not clear.

Turn A.

26½ From this line, on the rather gentle swells, a great view is presented. To the S.W. & W. there is the gently rolling loess-less plain of Audubon, with the rougher hills somewhat to NW. To the NE, E, & SE a view of several miles is presented, & this seems to be same rather gently rolling plain. It seems to extend at least to the Middle fork.

At no. 2, on a long gentle slope, dropping W., to cross-roads, drift shows almost at top (at top in road) & on the slopes there are 3-4 ft. of yellow sand (with little clay)

27½ This is rougher, to valley. Drift shows at tops of ridges, & on slopes.

28- Drove ½ mile on bottomland. To S. & SW. the country is much rougher, & to SW. a large timbered area appears.

Turn N. 1½

29½ miles To SE. cor. sec. 8 (returned a mile and a half. Bridge out to SW.)

Turn W. ¾ mi.

30¼ Most of this is on wide bottomland.

Turn S.

31¼ Mostly on bottomland. From end of this mile (crossroads on top of hill) the country NW. looks gently rolling. To S. & SW. it is rougher.

32- Ran about ¾ mile of this, over rough, timbered country. Drift shows on all the ridges quite to top.

33¼ Turned N. 1¾ mi.

34 Turned W. to turn.

35- To co. line, at about middle, (at no. 3) on a slope going up to W., drift shows for 3 or 4 ft. (more down) & over it lies about 4-6 ft. of loess (gray below, yellow above)

N. side.

Lobular outside
for a couple of feet.

Does run out.

yellow loam 1 ft. (2)

gray loam
chocolate

2 ft. (3)

2 ft. (4)

2 ft. (5)

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Andalusia co - going W., begin at co. line.

36 - N. line sec. 13. A short distance

W. of corner the road runs down a hill. Upper part shows a little gray loam, with a little yellow above (?)

Drift comes nearly to top of ridge.

The ridges W. show a reddish or brownish stuff at top & drift on slopes. It is still wet & colors are not clear.

To the north the surface is rough.

In this section also N. E.

37 - The country is still somewhat rough, but the slopes are longer & gentler. Seems to be no loam, but drift shows a little here & there on slopes.

Turn S.

38 - This is also somewhat rough, but slopes are rather gradual. Drift comes up almost to surface on the first two ridges. Only a little soil over it. Slopes gradual.

39 - Looking S. E. from near N. end the country is quite gently rolling. Also W. & S.W. S. it looks a little rough, but not extremely so. Just a little greater swell. The slopes on this line are also quite gradual. Near S. end. Two ridges show drift quite to top.

Turn E.

41 - Near E. end the slope from shows drift quite to top. Rest of section shows long gentle slopes & occasional drift.

41 $\frac{1}{4}$ - Some drift.

Returned 1 $\frac{1}{4}$ mi.

42 $\frac{1}{2}$ - The line on S. side sec. 22

The slopes are rather gentle & all the territory is of the gently rolling type. A little drift shows here and there.

43 $\frac{1}{2}$ - The slopes are very gentle, - almost flat. Country far to S & S.W. shows gently rolling topography.

From end of this mile N. & N.E. and N.W. The same gentle slopes. Almost no cuts, hence little drift shows.

44 $\frac{1}{2}$ - Very gentle slopes on road & no exposures. All country, especially N. & N.W. is very gently rolling. Evidently no loess.

Turn S.

45 $\frac{1}{2}$ - Very gentle slopes. No sign of loess, & as there are no exposures, drift does not show.

46 $\frac{1}{2}$ - Just beyond cross road - between 31 & 32 (where school road was)

there is a shallow cut running up hill to S. At top (S.) it shows sand on top. On lower slope there are about 2 ft. of gray loess with iron tubes & above it the same heavy gray streaked yellow loess - about 4 ft. This seems to be at edge of loess-ls. area.

The rest of way slopes are gentle & no exposures, but hills to S.W. are more prominent, & S. the surface is rougher (in next mile)

47 1/2 (Melville Twp) The rougher Territory
seems to run about a mile E. of
this line.

48 1/2 - The same is true here.

These two miles are not rough, but
rougher land is just E. Little
is exposed. Country S. is rough rolling.

Turn W.

49 1/2 - to co. line.

50 1/4 -

Turn S. 1 mi.

51 1/4 -

Turn E. - 1/2

52 1/2 -

53 1/2 -

54 1/2 - Audubon.

2 1/4.

16 3/4 to Shuman

73

Reached Audubon
at 7:00 pm. &
put up at
Hotel.

73
15
365
73
\$10.95

Sept. 21, 1921 - Wed.

Started out at 9 am.

Elevation at curb E. of Presbyterian
Church (block N. of Contham) = 1000.
1 blk. E., ^{sw} cor. E. Division + Broadway
= 1020.

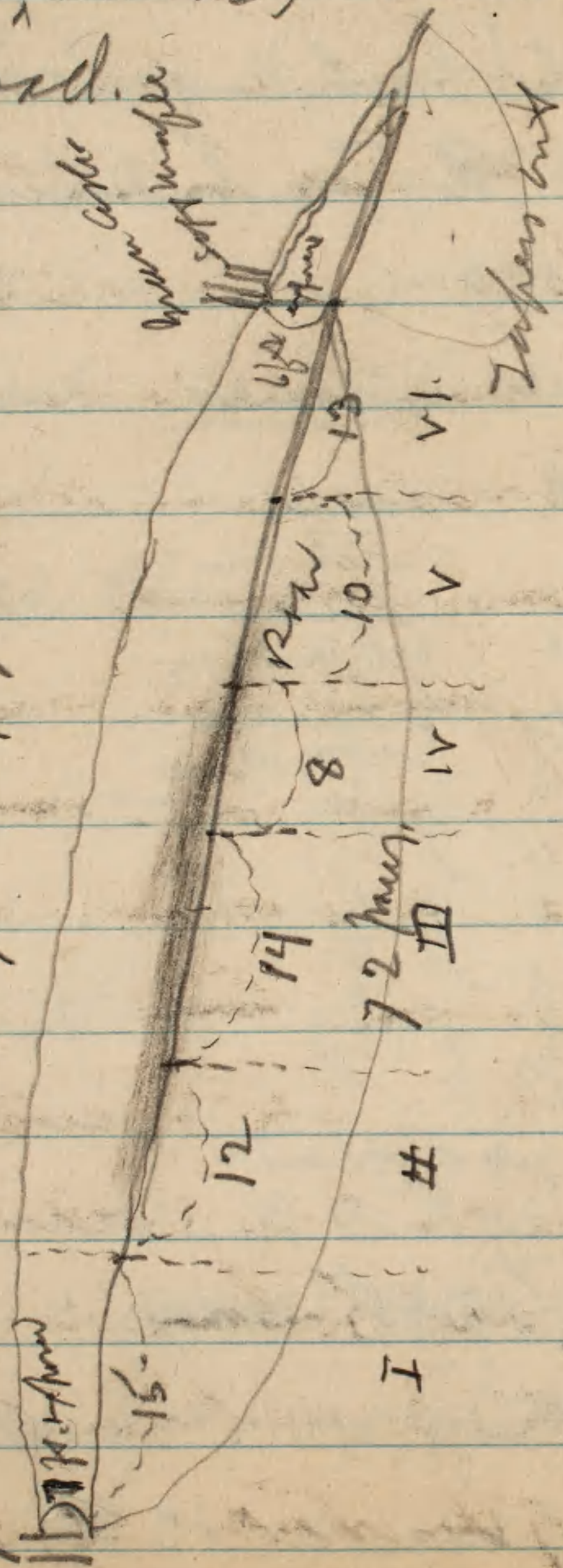
Trees culd. in Audubon:

Wh. Birch	Apple
Cupress " "	Scotch Pine
Walnut	Cottonwood
Arbutus Vitae	Wh. Mulberry
Red Cedar	Green Ash
Eu. Larch	Norway Spruce
Soft Maple	
Box Elder	
Am. Elm	

At top of hill N. + 1/2 sec. cor. N. Division, 21-80-35,
= 1045 (=~~1045~~)

Near N.E. cor. NW 1/4 sec. 22-80-35 - highest
part of ridge = 1055.

This is on N. side. The
S. side is less clear, not
having the deep gutter.



I divided this into sections, as indicated, and these are treated separately in following notes.

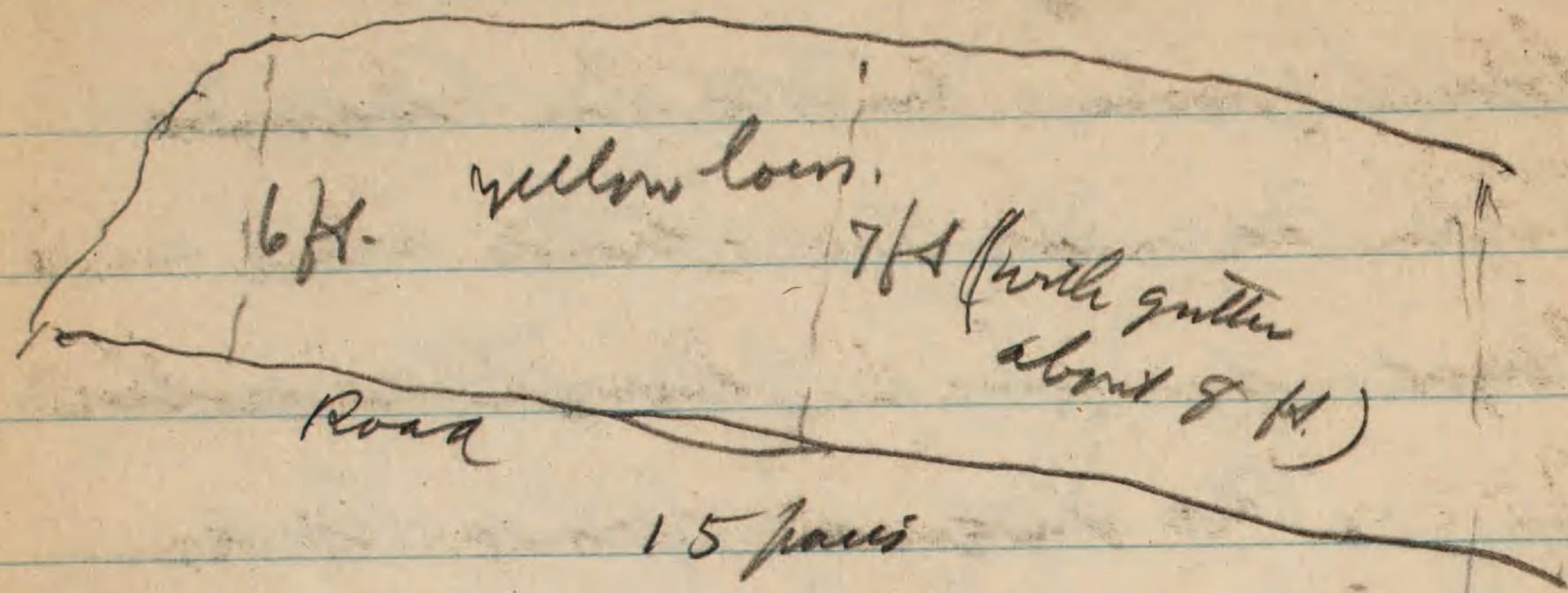
The shells in the upper (older)
yellow loess are mostly in lower 2 or 3
ft., & Inc. arane is the most
abundant, - only a few other individuals
found. No shells in upper end,

In the gray loess shells are found
all along except near top end.
In the upper part here, avonae
is quite frequent. In lower
the Pupae are more abundant.
Notules are few & found in Gray
loess, and small & scattered (few)
in yellow loess.

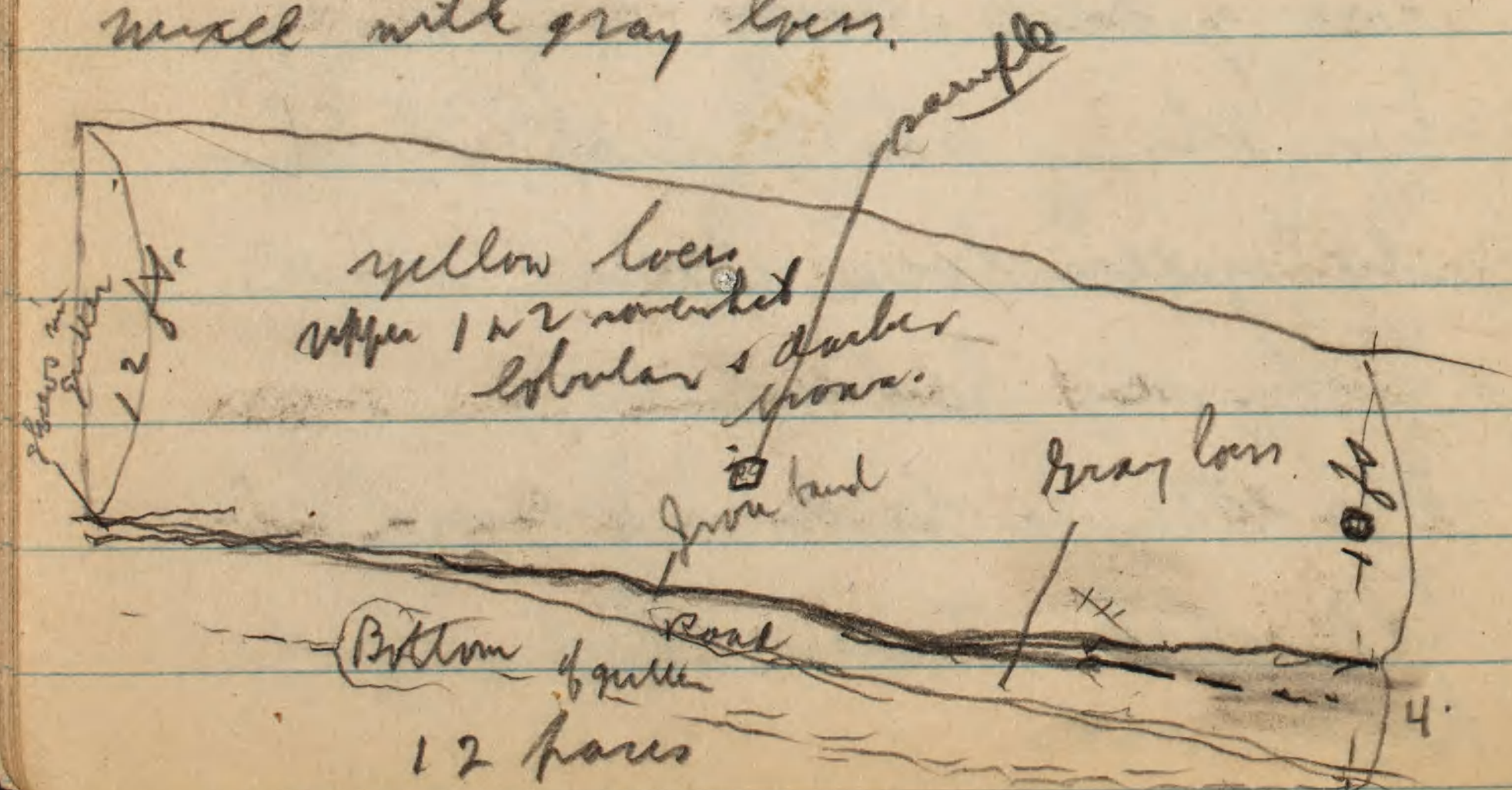
Sec. I. This is 6 to 7 ft deep, & shows only yellow loess without shells & with very few nodules.

This extends back up nearly to
top of this steeper slope, but
tapers out.

I



II. In this section gray loess appears at base. It is quite sharply separated from the yellow by an iron band, which is somewhat irregular, but runs about 2-3 inches, in places nearly mixed with gray loess.

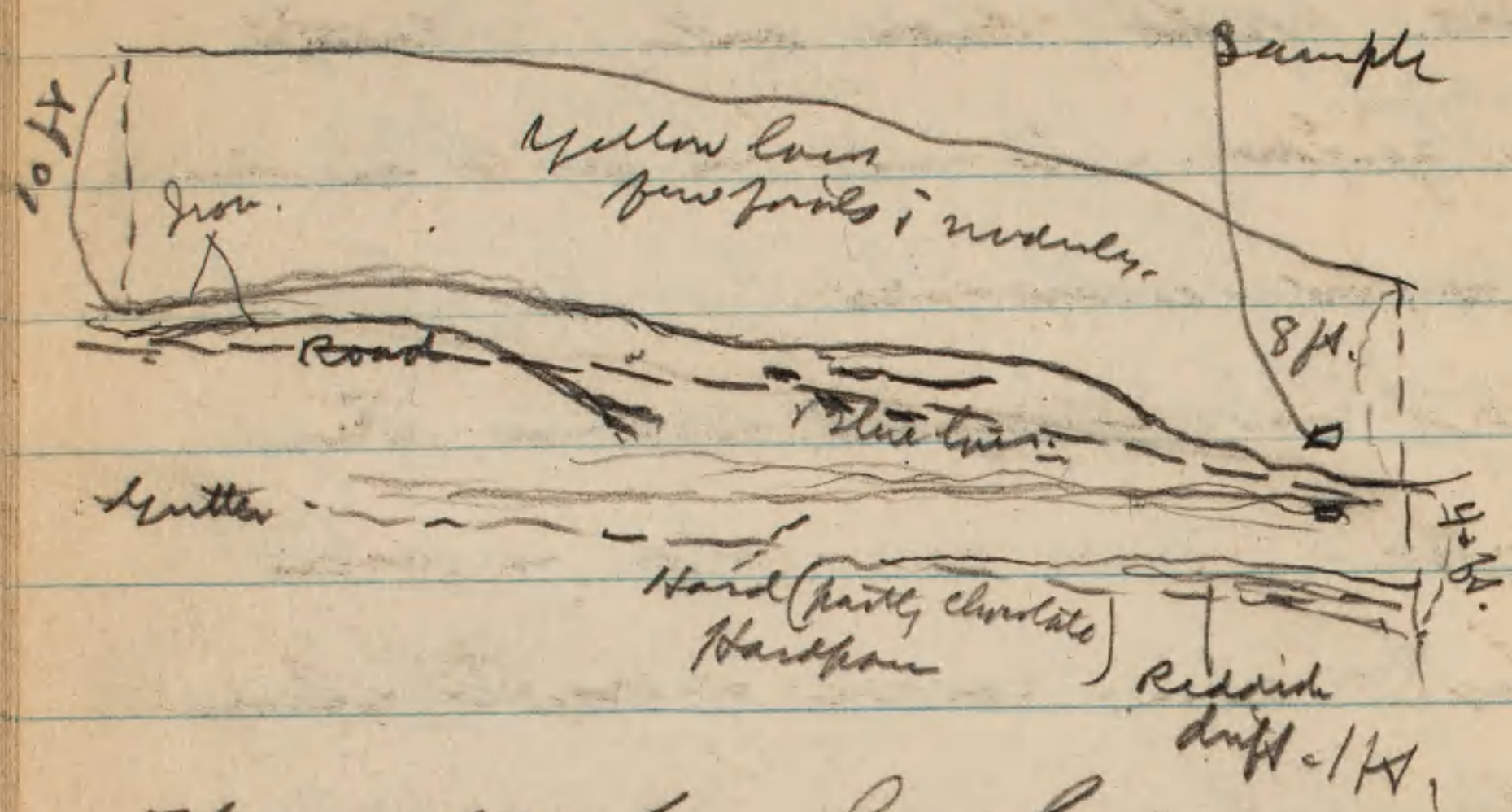


At the E. end there are $2\frac{1}{2}$ ft. of distinct blue fossilif. loess & this changes ^{somewhat} rather abruptly into a hard blue mucky layer resembling the tougher chocolate. Is this the original source of gray loess? There are a few iron tubes in this also, but in gray they are abundant.

About a ft. of this hard stuff is exposed in gutter. The iron bands in gray loess (at top) divide as indicated. The space between those to W. reaches about 8 in. (the E. end is about 15 in. more in next section.)

At E. end the distance from ~~the~~ iron band to bottom of gutter is about 4 ft.

III. -



The yellow loam here has few fossils, & these only in lower part.

The iron band is irregular, but reaches 5-6 in. in places.

It follows the road out at hard pan below. Irregular division

shows for some distance to E. of that.

The hard pan layer is blue-gray or chocolate, with iron tubes (few) & streaks. It shows more or less irregular

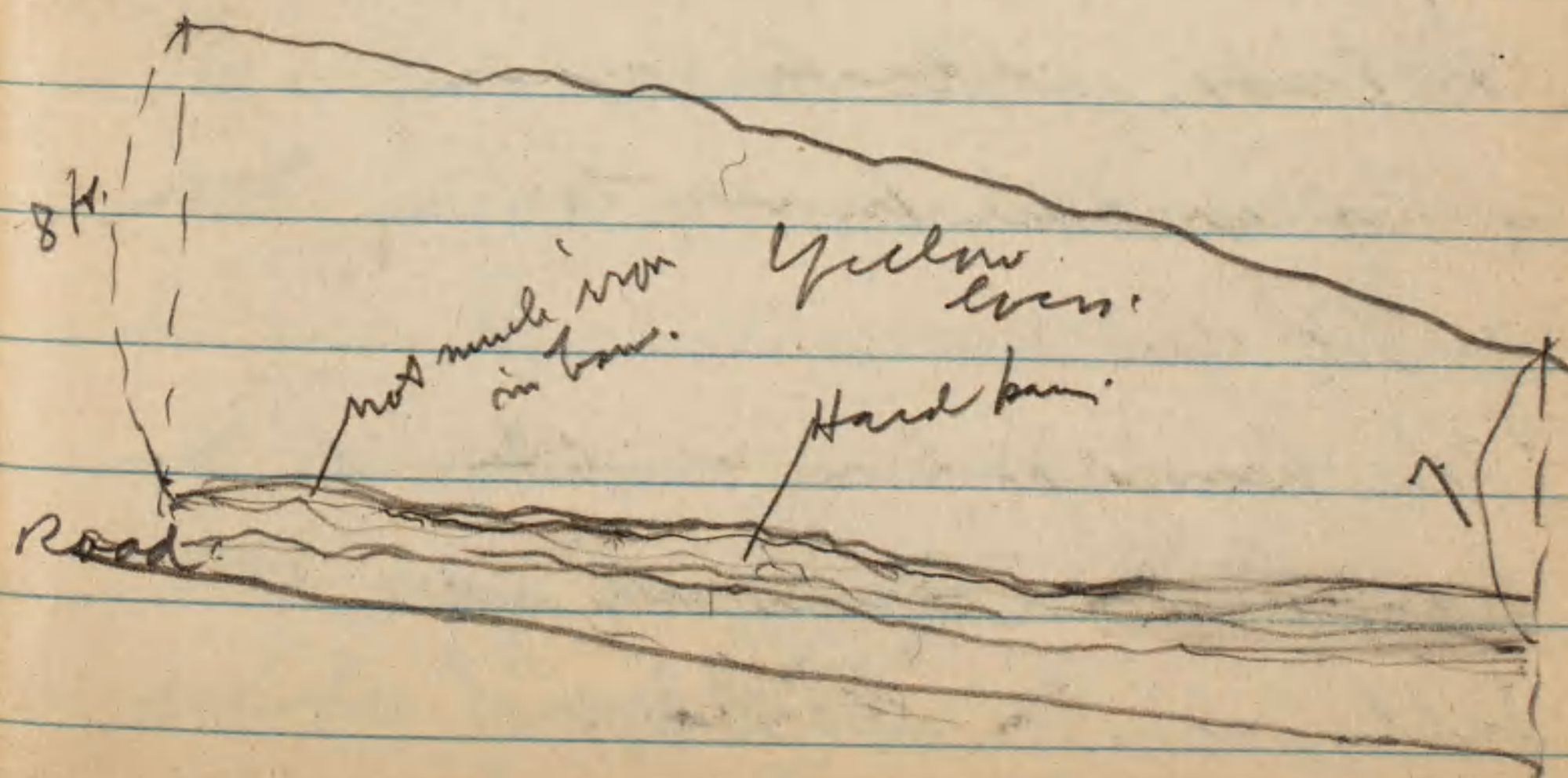
stratification.

The drift shows only a little in gutter, & is in this part nodular, loam, with some iron.

At the E. end of section the gray loam runs out, & iron band comes right down to chocolate layer. A little irregular gray streak may represent remnant of gray loam. The gray loam has numerous iron tubes.

IV. -

No blue loam in this



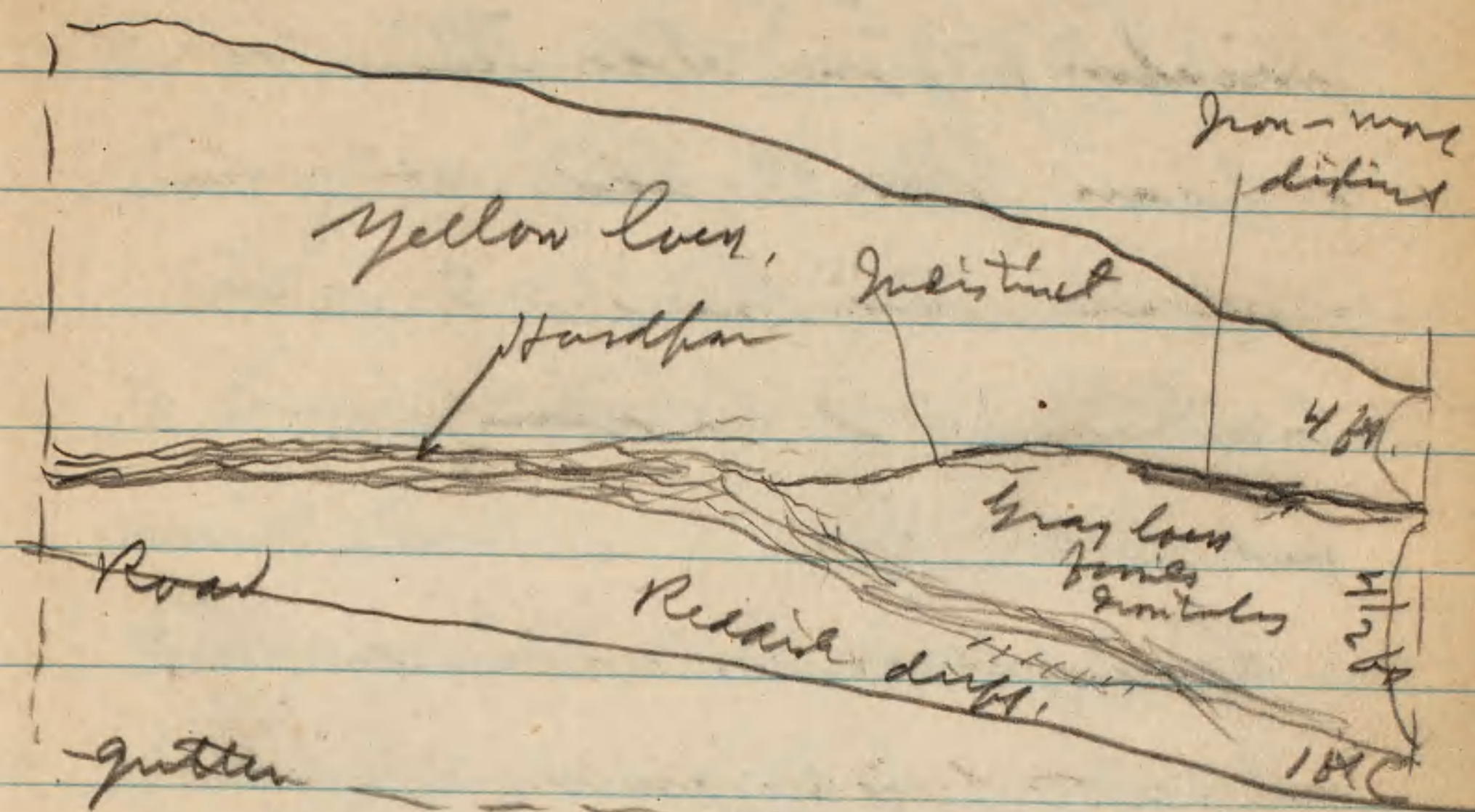
The iron is quite scant & streaked in the iron band here. The hard pan is blue or chocolate, & show stratification in wavy contours. It is about 1 ft. deep.

Nearly 4 ft. of reddish drift is exposed in gutter. At the E. end of this section there is an 18 in. granite (mostly orthoclase) boulder in gutter.

The drift looks reddish & "granular" to very bottom of the gutter.

The hard pan is nearly horizontal. Only slight fall, as if at edge of shallow pond or stream.

V.



The hard pan is as in preceding but runs out to right.

Sec. VI is not distinct & seems to show gray loam mostly. Took sample of yellow loam (no bones) in sec. II, 2 ft. above iron band, at middle.

Took gray sample just below, 4 6 in. under iron band.

Took sample of yellow loess
(fossiliferous) from Sec. III
(2 paces from E. end), &
6 in. above iron band.

Took sample of hardpan
just below this.

This cut runs out (down hill)
at about 58 paces from
Green Ash (see cut), at a
fence running N.

The ground then still slopes
down. Readings (barometer)

N. end of cut (^{about} 45 paces W. of
private road & near sec. I) = 1084

Base of Sec. I ^{road.} W. end = 1076

" " cut at Green Ash = 1060

E. End of cut at cross-fence = 1044.

Flat at base of hill _{mail box} = 1004 ft

1069 - Road at E. end of sec. III, where
iron band is just above level of road.

The road runs from base of hill
E. on nearly a level (rise to E.) at
base of a hill to S.

It is 205 paces from cross-fence
to base of hill, at A. P. Gorgens
mail box.

The mail box is 160 paces W.
of the Sec. cor. (see cor. of sec. 22
Elev. from ~~at~~ ^{at} sec. cor. = 984

Both of the cuts in sec. east
show only drift, but both are
toward base of higher hills
rising to upland S.

The drift shows a red brown
band above & gray & bluish
below. Many pebbles & small
boulders.

Reading in road at base of 2nd cut east
= 990.

A layer of brown stuff above
drift in these cuts seem to
be 3-5² ft. deep.

The elevation of road at
N. edge of bottomland on
N. side of N. $\frac{1}{4}$ sec. 23 = 950
Changed to 965 while I lunched.
On flat just W. of bridge = 950
At N.E. corner $\frac{1}{4}$ sec. 23 = 965
At 400 paces E. of NE cor
sec. 23_N is top of rise, still
below uplands E. & NE, + S.E.

Reading = 1004

Seems to be all brown stuff here.
It is rather tough, ^{rather} dark brown, +
breaks like fine jointed clay.
Not loess.

The yellow loess in big cut
on N. side sec. 22 is of the
older type, with streaks of blue,
black spots, + few small nodules.

Went N. on road along N. $\frac{1}{4}$ line
in sec. 13. Along the
first mi. N. (in 13) there are
three low ridges, - much lower than
uplands rising to E.

The first, at S., shows only brown
stuff. The second is broader, + on
N. side a gutter (on E. side) exposes
about 5 ft. of the brown stuff.
A little drift here + there.

The third is highest, rising N.
to a broad ridge. On its S.
slope about $\frac{1}{3}$ way up, brown
layer shows very distinctly right
on drift. No iron or other sharp

line, - it simply blends with it abruptly. It is about 4 ft. deep here, & seems to run about as up hill, for bits of drift show in ditch here & there. There is no loess here!

The highest part of this flat ridge is just S. of the N. line of sec. (at cross-roads) & elevation = 1009.

E. of this cross-roads (about 75 yds)

The top of ridge = 1030 &

E. of that it is gentle slope, ^(but locally only) Brown stuff shows on the ridge.

965 = elev. of bottom land just E. of bridge, on N. side of sec. 14.

Went west along N. side 14 & 15.

Just W. of NW cor. of sec. 15

The top of ridge = 1060.

This is just a little below general level.

The slopes up toward W. are gradual, & no loess is visible, but a much similar to that in cut in sec. 22, & over it brown stuff [thin!]

All the country NW, W, and NE show the gently sloping contours. E. across river (& N.E.) there is a somewhat higher mass. (May be included in loess area?)

A $\frac{1}{4}$ mi. E. of N.E. cor. sec. 15 ^{2nd} is highest hill on this road. It is on general level of upland & reads 1100. The higher mass E. of river runs a little higher, & also hills S & SW & W, but NW, N. & NE it is on this general level, & all with gentle contours.

The hardpan comes ^{near} to surface
even on top of this hill.

Drift shows on both sides
just a little below top. No
deep cuts.

A lower ridge W. shows
drift quite to top.

The next ridge, also lower
than 1st, is just at $\frac{1}{2}$ mile
(Quarter) post. It shows drift on
slopes, & on top shows a $\frac{1}{2}$ in
foot or so of gray loam with
fragments & a few fossils.

It has an iron band above,
& is capped with about 3 or 4
ft of yellow loam & soil.

I saw no nodules, but tubs
are abundant in gray loam.

Saves shells from gray loam.
A fragment (of *Am. amara*?) was also
seen in yellow loam.

The gray loam must be very thin,
as drift comes well up.

1128 is reading on highest tree
on this road. This is on a level
even with upland near E. of
river. This is about a $\frac{1}{4}$ mi
E. of NW. cor. of sec 15.

The two lower intermediate
(preceding) ridges are probably
40 ft. lower.

N. side NW. of NW. of 15-80-25,
sloping up to show drift
& 2 or 3 ft. of brown stuff
resting right on it. No iron
or other band. All along
N. S. & W. side of 15 what loam

is present must be very
patchy as drift is everywhere
in evidence.

The cut just S. of $\frac{1}{2}$ sec. cor.
on W. side of 15, shows 2-4
ft of brown stuff, quite sandy.

The cut N. of creek, in S. $\frac{1}{2}$ of
sec. shows brown stuff & drift,
but no loess. Slope down S.

The same is true of next one
S., sloping up S., which
shows drift & brown stuff.

This whole mile on W. side
of sec 15 shows no loess.

The reading on hill, on $\frac{1}{2}$ sec.
corner N. of center, at 6

P. M. = 1105 - -

At cor. Broadway & E. Division

(old Mt. M. Patrick's Church) = 1071.

This is nearly correct for in Columbus,
Perhaps 8 or 10 ft, added is
all that is necessary.

Presbyterian Church curb =	104.5
	<u>10.00</u>
	45.50
CR. I & P, Ry - depot -	990

Dr. H. C. Rogers wants me to
stay at his home, & let him
know when I can come back.
Want a talk, - prefer Friday
night if possible.

The day has been bright
and windy.

Spent evening writing notes
and packing.

Sept. 22, 1921 Thurs.

Awoke at 5:30 AM. Packed
basket of material & sent it to
Ella.

Left at 8:45 A.M. for Brayton.
Train is 35 min. late.

The day is bright, and with
only a nice breeze.

The widening and grading of
roads, and the cutting of "weeds",
are rapidly removing even the
remnants of our prairie flora
along the roads. The cutting
of "weeds" is resulting in the
destruction of our hardier flora
of the prairies, but Rag-wort,
Prickly Lettuce, etc. are everywhere
abundant.

Very few parasitic fungi have

been in evidence so far. This
is an off year for them. The
usual host plants seem to be
maturing and drying without
the assistance of their parasites.

Walked out from Brayton S. to
first crossing (about 1 mi.)
On the woods - ^{substantially to the} bottomland, I saw:

Crataegus mollis	Ulmus americana
Salix nigra -	Acer negundo
green ash Fraxinus	Juglans nigra
Symphoricarpos (red)	Acer spicatum
Populus deltoides	Vitis vulpina

On higher ground:

Filix fem.	Crataegus mollis
Shrubby Liriod.	Juglans nigra
Quercus macrocarpa	Quercus rubra
Ulmus am.	Bittersweet celastrus scandens
Green ash	Ribes gracile
Symphoricarpos (red)	Menispermum canadense
Ulmus fulva	Atropa occidentalis
Sambucus canadensis	Eryngium yuccifolium
Carya (white)	

Also collected a few mosses &
flowering plants, & *Onoclea* *Struthiopteris*!

Also collected several tern. mollusks,
chiefly under *Filix* and logs.

Polygyra monodon

Zonitoides arbores

Vallonia costata?

Prifidiana acuminata
" *costata*.

Zonitoides minuscula?

Succinea ovata.

A *Lymnaea*? in drift?

Vitrea hammonis.

→ The last was most
common under logs, etc., in

wet places.

Encrinurus fulvus.

I returned at 3⁰⁰ PM, &
left Brighton at 4²⁰ PM
(train 38 min. late.)

Went on home, changing
at Atlantic.

Oct. 27, 1921 - Thurs.

Left Iowa City, for Audubon
at 12:15 AM.

Oct. 28, 1921 Fri.

Reached Atlanta at 7:45 AM
1 1/2 hrs. late, & missed first
train for Audubon.

A clear, pleasant morning,
but it rained in the night.

It clouded up, & just
about noon it rained
more or less. The roads
are quite slippery.

Reached Audubon at 2:00 PM.

It has been drizzling a
little, but is letting up.

Wrote my list of McGregor
ferns, ^{for Bennett} at Atlanta, &
mailed it before leaving
for Audubon.

Rained in afternoon,
Reached Audubon and put
up at Dr. Rogers' home.
In evening talked to Veritas
Lodge on the 2nd Degree.

Oct. 29, 1921 - Sat.

Awakened late. It was raining,
and rained all day.

Wrote notes.

Oct. 30, 1921 Sun.

Rained ^{heavily} all day.

Attended Methodist Church in
morning.

Wrote notes in afternoon
and evening.

Oct. 31, 1921, Mon.

It was still wet in the morning.
Spent forenoon on my notes.
Clear and windy.

In afternoon went East.

Elevation at, Prob. Climh 1000

Cor. E. Division & Broadway 1027

N. line sec. 21 (on hill) - 1066

This is at point N. of Audubon
where I turn E.

From here the country SW., W., N.E.

& N. is distinctly rolling Kansan-
loess topography.

Also N.E. for a short distance.

Stopped at my big cut

Took photos 15a & 16a of that

part on the side where band comes down

On opp. side gray loess is
a little higher & shows a lot

of fossils. Also rusty band above
yellow, here thicker, has fossils
in lower part, but fewer.

Elevation 1. mi. - opp. place
where we band dips down on
N. side:

Road - 1065 -

Top of gray - 1068

Top of yellow - 1074

gray - 3 ft. exposure (more in places)
& more with gutter)

yellow - (must be 10 ft or more)

Tested HCl. - gray loess effervesced
rather freely. Yellow loess much
less so, - even 1 or 2 ft apart!

Went E. to 1st end on S. line
of sec. 13. - Tested brown stuff
with HCl. No reaction.

Went S. one mile, to pt
1/4 mi. E. of W. line of sec. 24

all this Territory E. of the river
is gently rolling, with long
slopes.

Turned W. Towards Audubon.

Between the river and Audubon the
topography is decidedly rolling
loess-Kansan, & the cuts 59-63 are
across the ridges. Cut 63

seems to show nothing but
drift, but it is on the lower
slope of a ridge, not at top.

At 5:30 PM. it was too dark
to see anything.

Rode in 2 miles, had supper,
and wrote notes in evening.

Nov. 1, 1921. Tues.
A fine, clear, rather cold
morning. Wrote notes.

Left at 8:40 AM. for Ross.

Elevation of RR. = 1000

" " top of 1st hill E. of H. & S. road
= 1000

" " creek bottom 1004 (1030)
Just E. of creek a long cut
along road runs to E. At base
✓ for some distance up, bluish Kansan
drift shows. Above it (at foot of
hill is a joint clay, ^(perhaps 2 ft) more or less
laminar, & with few pebbles & small
boulders. It is yellow.

This upper part shows little
reaction with H.C. Lower part ^(drift) more
this layer shades down into
drift & is only a modified
part of it.

Sylvester Moore - brother in law of
L. P. Kender.
China man nigla

The Kanan contains quite a number of small Sec Q, boulders & a few pieces of limestone

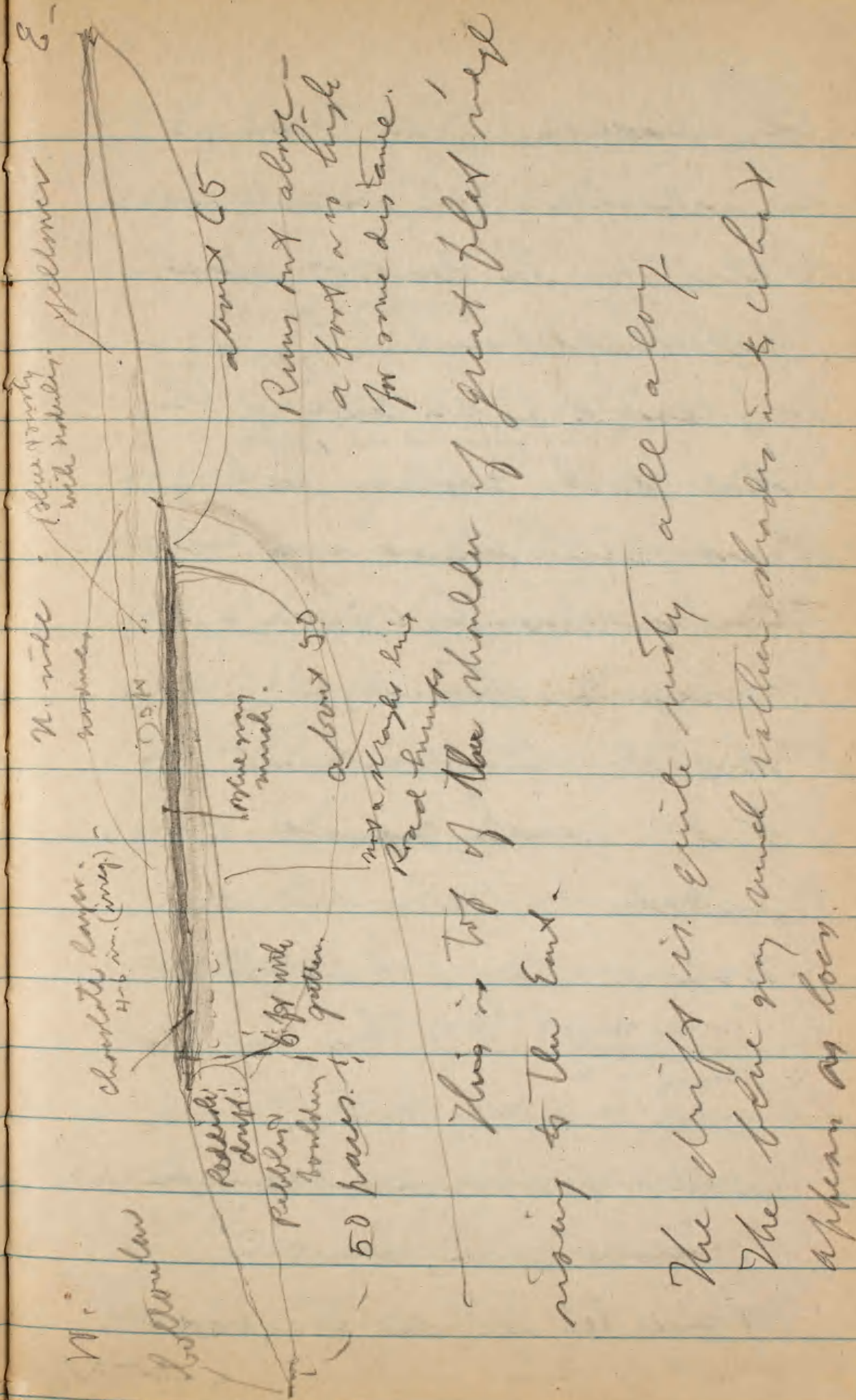
The chocolate band (in places like gray lichen, but heavy, runs out at 50 paces from base.

It then runs more nearly horizontally
than surface, & dips ^{under} about
50 fms farther up.

Above it is a layer of rather heavy stuff, somewhat like gray loam, but with a lot of iron in streaks & clonings.

Within the low marked "nodules,"
are many nodules, some irregular,
a few low down rounded (see sample)
No fossils.

In places there is blue gray (6 in. or more)
much ~~more~~ chocolate layers, or a part of it.



The nodular gray loess is
very calcareous; blue much very
little; rusty drift none,
yellow uppermost.

In places a part or more of the
blue much appear like blue
loess, with large iron tubes.
Then a strongly oxidized
irregular loess, 3-6 in.
Then the blue loess-like rusty
stuff grading up into
yellow.

Whole samples - chocolate

Blue much? (locally)

Mixed " " " "

Yellow

Rounded nodules from lower part blue

Smaller irregular, from near top

Towards top of hill the upper
part is more distinctly yellow,

+ lower. There is a part or
less of modified soil.

Readings at 11:30

Creek bottom 1045

Top of cut 1 - 1071

Top of hill E. 1098

Highest pt. near creek 1114

At W. end of cut 1, where chocolate
layer runs out, the brown modified
top of drift (at surface down the
slope) comes under chocolate layer
& thins out 8 or 10 paces to E.
(Not sharp)

Bank is still very wet after
recent rains.

Cut 1 runs out on a shoulder of
a great flat ridge or elevation,
which, after rising to 1098, runs
on the general level of the
territory to near the section line.

This cut 1 is in 2nd 40A W. from
NW. cor. sec. 3 LeRoy Twp.

The highest point on N side of 2.
(about 40A. E. of NW. cor.) reads
1121, but is a few ft
lower than last (1104!).

Evidently the barom. is covering
Creek bottom E. 1022

Cut 2 is on E. slope of long hill down
to creek bottom. It is badly overgrown,
but 1/2 way down a bed of gray loess (?)
about 1 ft, rests on a rusty gravel. Above
the gray loess about a foot (+) of the
mixed gray & rusty & above that 2 or
3 (or more?) ft. of yellow.

Drift shows toward foot of hill.
Cut 3 - is only 2-4 ft deep &
overgrown - It slopes down E.

On its lower slope a very rusty
layer & this grades into
drift, apparently.

The material in the roads all
along looks much heavier,
It does not look like loess. Evidently
there is not much loess, & this
only in caps.

The cut just east of creek, E. of
NW. cor. sec. 1, LeRoy Twp.,
runs uphill E., & nearly all
of it is very calcareous drift (thin
& rusty) with many white pebbles, etc.
It is very calcareous 1 1/2 ft. below
top. Only uppermost ft. of soil
gave no reaction with HCl.
This runs up, ^{rather} gradually, to a little
plateau, or flat top of lower ridge, which
in its highest place in road = 1102 (is

is distinctly lower than the
hills on N. side sec. 2.)

This is nearly highest point on
this flat ridge.
this is cut 4.
At upper (E.) end of this cut

There seems to be a little brown
stuff (only a foot or two as far as
I could see.)

The slope of cut is not very
abrupt.

Cut 5 is on E. slope of same
flat ridge. It shows drift
well up, or probably brown.

Cut 6, shows drift nearly to top,
with 2 or 3 ft. of brown on very top.

Cut 7. - 1 - 2 1/2 ft deep. Shows brown
on top & drift on both E & W.
slopes. Little on E. slope.

No loess in these last cuts.
The topography is also somewhat
more gently rolling. Perhaps this
should be cut from every area.

Yes! - at corner of top much better drift.
a lot of broken shells.
went N. 1/2 mi from top corner.

Elevation at high pt 40 ft. + N. of
corner = 1135 This is height
of general plateau.

A splendid view in all directions
excepting W.

Took photos 33 & 34. N. of N.

11-12 S. of E. across Kishwaukee

Both show the less rolling topography
of the loess-less area.

Looking N. & NW. (to NE. & E.)
The country is gently rolling, -
none of the abrupt loess-Kansas
slopes. All this part should

be cut out of lens area & the
few "islands" of loess can be
represented separately.

2nd reading (on return) of high point
is 1145.

On the way up (W) to high point,
perhaps 18 to 20 ft. below top,

a lot of small nodules in
road indicate a little loess.

There is no cut to show this
clearly.

Reading on river bottom S. of NE
cor. of LeRoy Twp = 1006.

On bottom land saw:

Ulmus americana
Fulcrum
Sage maple
Cottonwood
Box Elder

Pignut
Cornus stolonifera
Green ash
Honey Locust
Crataegus mollis

near middle of N. line no. 2 There
is a high rather steep hill.

about $\frac{1}{2}$ mi. from base of hill,
a gray stuff with iron tubes
(like gray loess) is exposed

about a foot. Farther up
the hill cut runs 1-2 ft V

shows yellow lobular stuff.
May be loess? No fossils.

This line to the N.E. was from
Ross to Audubon, is quite wgh.

Drift shows here & there, and
evidently the top dressing is thin.

Had a ride to Audubon.

C. W. R. Q. Audubon 1066

Taken at 5:30 P.M.

Moved to Sweet Home Hotel for the
night. Arranged material, visited
Rogers'; went to bed.

Nov. 2, 1921 Wed.

Arose at 6:30, packed, wrote letters, and left at 8:10 AM. for Exira.

The morning is clear but rather cold.

At Exira I put up at the Park Hotel, and went S. (and S.W.) along bottomland road on E. side of river. There is a terrace-like area S. of the E. + W. part of the road, and it is also noticeable on the N. side of the creek, including the W. part of Exira.

I worked in the bottomland woods just SW. of Exira, noting trees & collecting a few fungi and a mon.

Bottomland timber - Exira

Box Elder	acer negundo	Sambucus canadensis
Soft maple	" saccharinum	Smilax hispida
Salix amygdaloides		Evyonymus atropurpureum
Rumex crispus		Ribes gracile
Am. Elm.	Ulmus americana	Symphoricarpos (red)
Crotonus mollis		Corylus americana
Quercus macrocarpa		Rhus glabra
Juglans nigra		
Lilic americana		
Green Ash		
Cottonwood	Populus deltoides	Rubus cuneatus
		Cryptotaenia canadensis
		Polygonum scandens
		Urtica gracilis

Went south.

The terrace just S. of Exira is quite flat, but soon backs up. The general bottomland invades it.

The same terrace-like place is in nr. 9. This is really a plateau extension of highlands.

At (X) S. part of nr. 9 - a cut in road shows about 2 ft of a joint bluish & yellow heavy clay. No reaction with HCl.

At O in nr. 16 is a low hill, from

which there is a fine view. S.E. + S.
the country is rough, cut up somewhat
by valleys, & it was evidently all timber
W. + SW. The view is across a
gently undulating area with long
gentle slopes. No forest except
down along river.

N.E. it is somewhat rough
and here & there in valleys are
scrubby groves.

E. it is somewhat rough along creek,
but only for a short distance.

The "bluff" slopes along the river
are all very gentle, - especially
on E. side W. of the rough area.

A low ^{just} cut E. of S.E. cor. of sec. 16
shows about 6'-8' of what looks
like gray loess, at base. It
has iron tubes ^(rather small), but no nodules.

Expenses - (cm) Audubon, Sep. 1921

Sep. 21 - Lunch	²⁵	.25
" 22 - Hotel 2 room, 5 meals		4.50
Barber ¹⁵ , Ex. proc, basket		.60
RR. to Brayton (Ex. proc) no tax		.48
Lunch Brayton ³⁰ , 2 nd lunch ³⁵		.65
RR. Brayton to Iowa City ^{7.74} today		7.74
To Audubon - Oct. 27 - (Ex. proc)		14.22
Oct. 27-1921 - Taxi - Iowa City		.25
RR. to Audubon (no tax)		8.22
Oct. 28 - Breakfast (Cardie restaurant - Atlantic)		.55
Virginian cafe, Audubon dinner		.45
Supper (lunch) Curtis Rest.		.15
Oct. 29 - Curtis - Breakfast	²⁵	.25
Supper	²⁵	.50
Oct. 30 - Breakfast	¹⁵	.15
Supper	²⁵	.40
Oct. 31 - " Breakfast	⁴⁵	.45
" dinner	²⁵	.25
" supper	⁴⁵	.45
Nov. 1 - " breakfast	⁴⁵	.45
" lunch	³⁰	.30
RR. to Ross		.16
Nov. 2 - Sweet Home Hotel supper, room, breakfast		2.72
RR. to Exira		.35
Exira, Exira ²⁵ , lunch (bakery)	²⁵	.50
Nov. 3 - Park Hotel, Exira supper	⁵⁰	.50
Room, breakfast	^{1.00}	1.00
RR. to Brayton		.40
RR. to Atlantic (no tax)		.45
Plates ⁹⁰ , Barber ⁴⁰ , glue ²⁰ , Magazine		1.70
Supper, Cardie		.50
Nov. 4 - Room	^{1.15}	1.15
Breakfast	³⁵	.35
RR. to Elkhorn (no tax)		.50
Lunch - Elkhorn restaurant		.40
Supper, Curtis' Rest. Audubon		.45
		24.65

Nov. 5 - Audubon Mrs A.C. Rogers room		1.50
Breakfast (Joc & D.) Curtis		.90
Dinner		.30
Fruit, etc.		.18
2 baskets - 50, Express 2 baskets		1.50
Gov. Shaver - Aud. to Defiance		1.68
		6.45

Nov. 6 - (Sunday)		
Nov. 7 - Emma - for ladies		5.00
RR. Manilla to Defiance	⁵⁰	.28
Lunch, room, supper. Downing Hotel, Defiance		.75
RR. Defiance to Manning (notes)		.66
Miss Manning		.25
Nov. 8 - Park Hotel, Manning, Room, breakfast	^{1.00}	1.45
Lunch, Virginian Cafe, Manning		.30
RR. Manning		.25
RR. Manning to Cedar Rapids	^{2.00}	6.89
Dinner, Restaurant - Perry -		.35
car to Cedar Rapids		.18
car to Marion		.18
Supper Marion, Rubels Rest		.40
Parcels (4) - Cedar Rapids		.40
RR. Cedar Rapids to Ia. City		.96
Coffee, paper, magazine	²⁵	.35

30.98

24.65

\$ 55.63

My extras:
 Fruit for lunch
 soap
 odd luncheon
 baskets
 sugar cookies
 express charges
 laundry
 Notebooks
 maps
 Shaver, etc.
 Laundry

(look back two leaves)

and the part exposed gave no reaction with HCl.

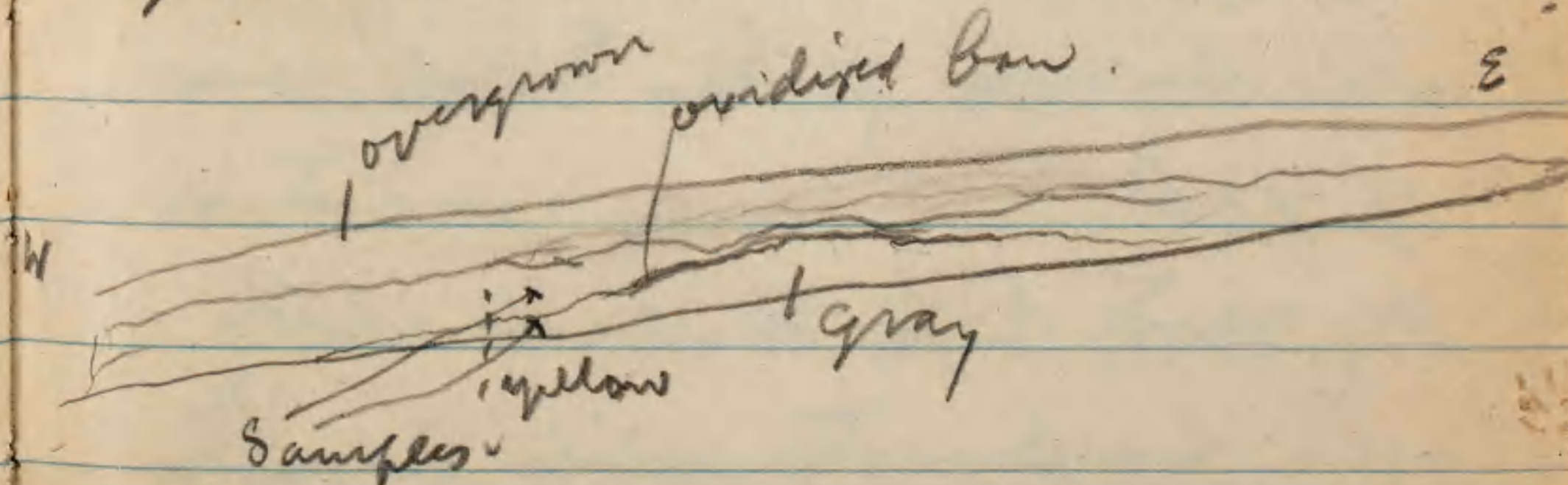
Took sample 4-6 in below top of gray.

This passes upward quite abruptly into a yellow layer, here 1-2 1/2 ft exposed. & above that 2 ft overgrown.

Both appear lobular (a slightly jointed) and may not be loose.

No fossils.

Farther up the slope the gray rises higher (2 ft) & there is a strongly oxidized belt between it & the yellow. The yellow becomes correspondingly thinner.



Neither gray nor yellow gave reaction with HCl.

Upland timber in sec 10:

Q. macrocarpa

Q. rubra

Pignut

Fraxinus (yellow fr.) ^{not red, orange}

Red Elm

Prunus serotina

Q. velutina

The bur oaks
are at SW. & S.
edge.

The ridge E. also shows gray
stuffs ^{seen}, & when dry, it
looks more like joint clay.

Probably none of this is true.
Drift (reddish & pebbly, with small
boulders) shows on nearly
all the ridges along S. side sec
9 & 10.

The country E. to SE. on sec 10 &
somewhat beyond, is quite rough.
Sec 10 itself is pretty well broken up.

From hill just E. of P.G. on sec 10
the view E., SE. & S. still
shows rough country, but evidently
it soon runs out E.,
to the N.E. it seems to be more
gently rolling.

all along E. side of sec. 10 there
is a row or belt of scrub
bur oaks, 6-12 ft (mostly 8-12)
at or just outside of fence. This
belt is broken only in the low
draws. On E. side of road
the belt is more interrupted
& much is missing & makes it
continuous.

There is also a good belt of
prairie along the road.
Drift shows here & there, -
as before.

While the oak is a lot of scrub
hazel, especially on W. side of
road. A few *Rhus glabra* (low)

Saw a Junco in this scrub stuff
Also *Black-chapped* *Chondestes*,

Went a little E. of N. E. cor. of sec.
10, N. & N.E. (beginning not over
1/2 a mile N. of N. line of sec. 11) -
is the gently rolling lower-land
area, - as far N. & N.E. as I can see.
E. line of sec. 10 is quite rough
& shows much drift.

On hill, down, on other side
S.E. of Eira 4-5 ft. of brownish
surface stuff shown. On the
vertical banks this weathers
into a granular stuff (small lobules)
Quite a little drift towards base.

Saw a Magpie - black -
with white wing spots (large)
& white belly - upper breast black
ka-ka, ka-ka.
Gua gua gua = note.

Long-Tailed

Base of steep slope 1018
Top of hill W. 1080 + 6

Return - top = 1080

Base of steep slope = 1012

Base of gentle slope (flat) = 965

RR - CR & P. = 965

Steep part = $4\frac{1}{2}$ poles ($\times 150$) = 675 ft.

Gentle slope = 10 poles = 1500 ft.

To river = $4\frac{1}{2}$ " = 675 ft.

To RR = $2\frac{1}{2}$ " = 375 ft.

Bottomland is 3-4 ft. lower than
RR.

The country W. is somewhat
rolling. all the slopes along
the river valley are gradual.
The country N. of Eira seems to

be of the gently rolling type.
at the top of the hill W. of
river (W. of Exira) there is a cut
about 6 ft. deep. It was rather
dark, but as nearly as I
could make out the stuff is
all the yellow, lobular upper
kind, and not loess. Took sample.

Drift shows in & along road
well up to near top.

Exira is partly on a sort of bench
or terrace. It begins at W. side
of business part & takes in a
little over a block.

The day was ^(cold) cool, windy, &
mostly clear.

875
910

Nov. 3, 1921 Thurs.

Arose at 6:30 am. A clear, rather
cold morning. Had a heavy frost
last night. wrote notes.

Left for Brayton at 8:36 am.

Went S. from Brayton along RR.
Saw more ^{quite a number} Junos. Collected fruit
of a very tall (7-8 ft) Chenopodium, - no
leaves.

Went to terrace near co. line. ^{S.} The
RR. cut here shows only a loose
yellow stuff that has an
appearance like that of the
brownish uppermost (mud) layer

layer of yellow loess. No nodules
or fossils.

Top of terrace = 910

Flat at crossroad = 875

The terrace is more or less
broken. ^{35 ft.} Height of
terrace

Farmer says bottomland will give
him 70 bu. of corn per acre, & hills 60 bu.

In bottomland timber (edges)

<i>Salix cordata</i>	<i>Pyrus americana</i>
Box Elder	<i>Crataegus mollis</i>
Am. Elm.	Rose (4 ft tall - partly)
<i>Salix amygdaloides</i>	Green ash
<i>Rhus glabra</i>	<i>Acer saccharinum</i>
<i>Salix nigra</i>	<i>Vitis rupestris</i>
<i>Quercus macrocarpa</i>	<i>Pignus carya cordifolia</i>
<i>Lilia americanum</i>	<i>Symphoricarpos (rev)</i> ^{argyrea}
<i>Celtis occidentalis</i>	Red oak
W. H. Helling	<i>Prunus serotina</i>
<i>Carya ovata</i>	

Went up the river along
the E. side, in bottomland
timber. Found a good many
fungi and some dimorphs.
Bamwood log most common,

Am. elm next.

This timber has practically no
undergrowth, and the trees are not
closely crowded.

I also picked up some mollusks
under stumps & logs.
Not many species, *Vitrea*
hammonii most common (about 60 ft)

Gonitoides aspersa & *Lima*
canadensis were next in
abundance. *Physa* *monstrum*,
Eucarya fulva, *Pisidium*
castrata, *Pyramidula striatella*?
Valonia costata, *Luc. ovata*,
were found in small
numbers.

Found a splendid *Ficula*?
in large patches on a big
fallen log (bamwood?).

Hurried back to Maytown to
get train at 3:50 PM. for
Atlantic.

Reached Atlantic at 9:45 ^{PM} &
put up at the Cardis Hotel.

Worked late evening, labelling
and packing my materials.

Nov. 4, 1921, Fri.

Awoke at 6⁰⁰ am, finished packing
(Was embarrassed by starting off without
paying my room bill! I had paid
for my breakfast, took receipt for the
whole bill, and started off! Of such
is the king dom of the absent-minded!
Dressed, and with head full of plans for my work,
left Atlanta for Elkhorn at
7.30 am.

Just after leaving C.R. & P. (near
which the line runs westwardly for
some distance), the RR follows a
creek valley. ^{After} ~~When~~ RR gets on
W. side of it it hugs W. bluff
closely & the E. bluffs are close
to creek.

The country on either seems
to be quite rolling, but not

exceedingly so. The bluffs are
mostly very gentle slopes, farmed.

This is still Cass co. The co.
line is just N. of Gates.

The "bluffs" become even
gentler as we approach co.
line. The valley widens somewhat
also, then narrows just before and
at Gates.

Cut just before Hawn. Then drift.
Loess in cut just at Elkhorn -

Went N. along RR - Cut B. S. of ^{Kimball} ~~Ridgely~~

Base of cut =	1065 - 1045
Top of cut =	1095 - 1075
	<hr/> 30 ft 30

Cut A = Base 1020
Top 1035

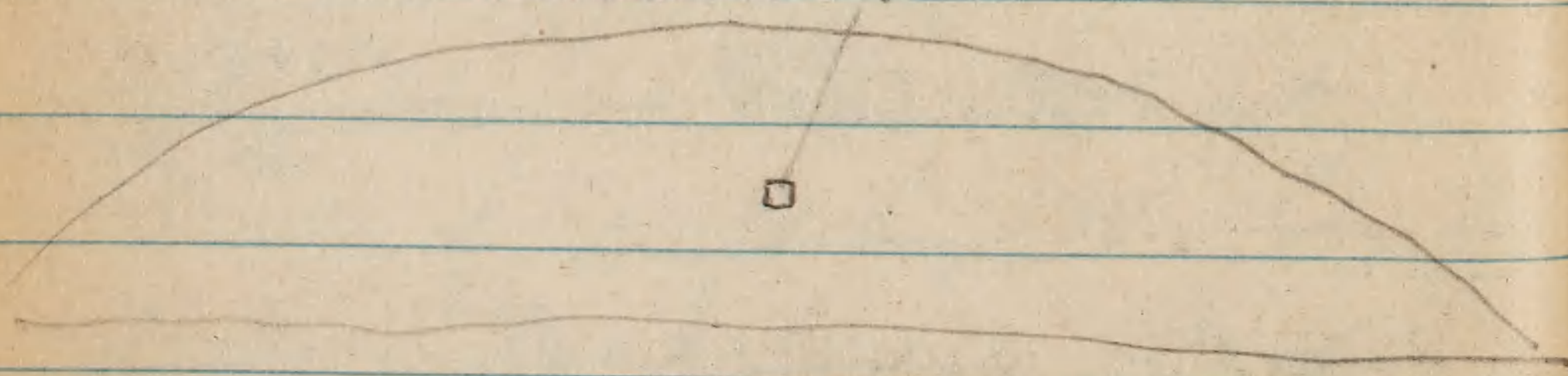
This is on a lower spur.
On E. side at least 10 ft of yellow
loess is exposed. It is rather soft.

without nodules or fossils, & rather
uniformly yellow (brownish slightly).

On the west side irregular
exposures of yellow loess occur. About
6-9 ft. below top I found a few
fossils & a couple of round nodules,
nothing but yellow loess here. The
cut is much overgrown, however.

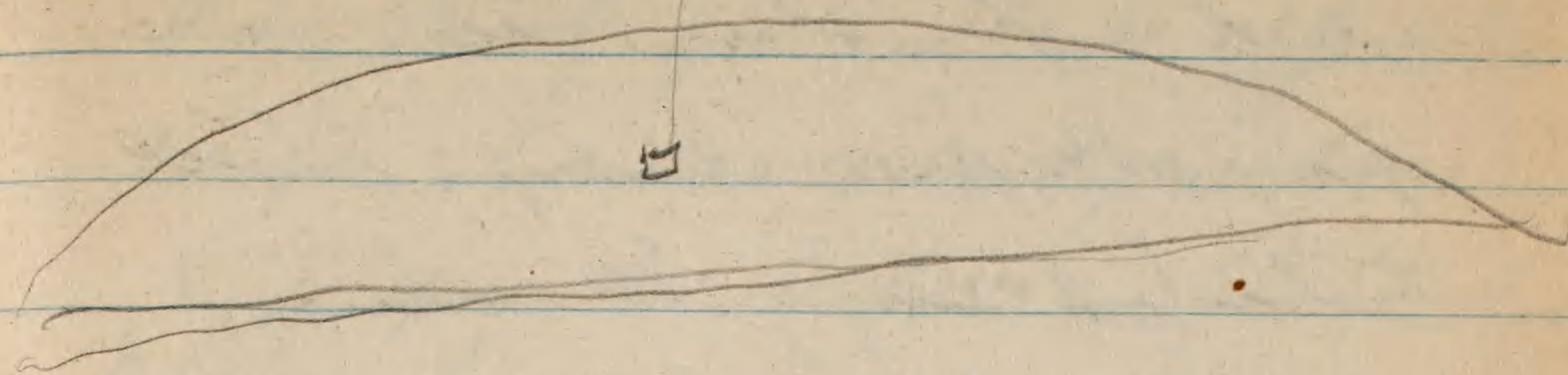
The fossiliferous part is laminated
in loess fashion, & has small iron
spots or clonings. Took sample,
8 ft. from bottom.

W. side sample



On E. side took sample
about 8 ft. from top

sample



There is a long, low cut between
A. & B. It is 8 ft deep on W.
side, & very low on E. It is
badly overgrown, but seems to be in
loess.

The region W. of flat mesa with
cut B - across creek, - is gently
rolling. The whole area W. of
creek is evidently of the loess type.

Photos 2/22 - looking W. from
above cut B.

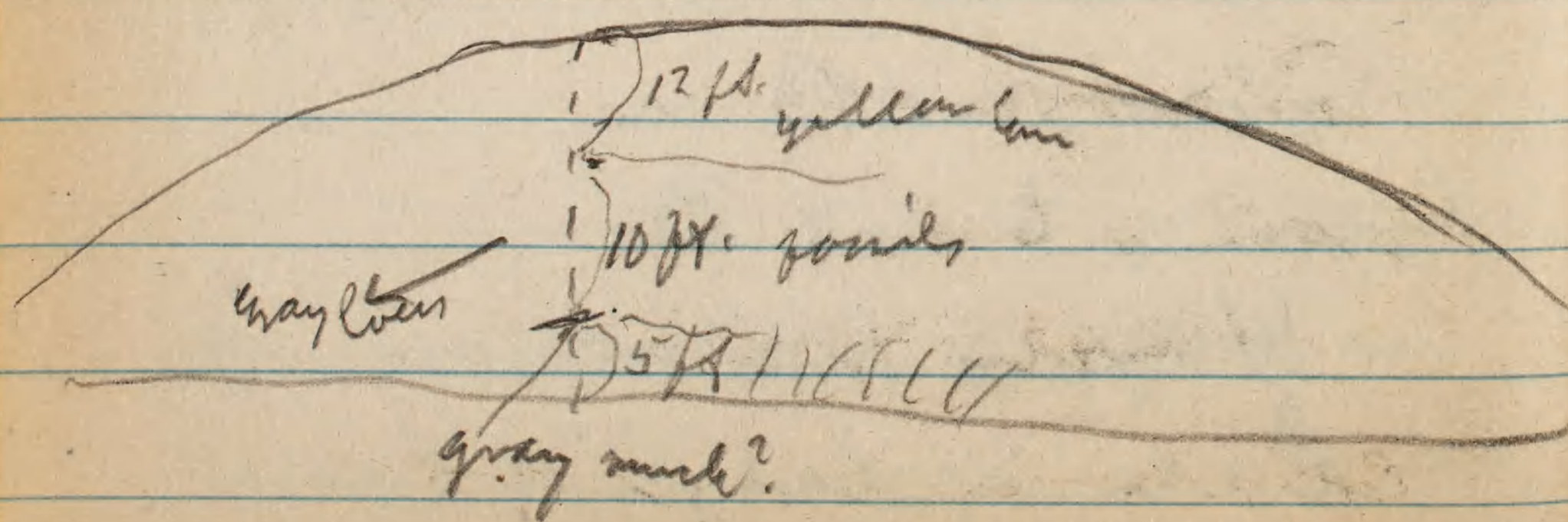
Returns to cut B.

The W side is more overgrown.
The E side is steeper at base.
In one place gray loess shows

about 6 ft. above track. It is
gray, with iron clonings & small
tubes (not many). It is heavy,
sandy & without fossils as far as I saw.
An irregular iron lens is above it.

The gray lens, only moderately
heavy with small iron tubes &
small clonings, & with fossils.

In lower part few rounded nodules.
The above is evidently below real gray
lens, which seems to be at least
10 ft. thick at one point N. of center
& 5 ft. above track.



A couple of feet (at least) of fully
drift above irregularly at base.
N.C. gave no reaction in blue mud,
gray lens or yellow lens.

An irregular rusty lens separates
the gray & yellow.

The drift does not show in bank,
but holds on stream surface for
a couple of ft. (No gravel below!).

The weathered gray lens looks
yellowish, but where there is a
possibility of mixing with softer
yellow upper lens. In the
more reticulated parts it is grayish
with rusty clonings.

Went to cut C. (old 3)

Collected fossils & round
nodules in gray lens

Barometer ran about 20 ft. 2. m. to know all the numbers to right

S

8 ft. yellow loam

9 ft. gray loam 7 m. 1

about 4 ft. white much? drift below?

lime gravel in bank

N

The yellow loam a foot of brown soil. It becomes heavier, with more gray downing and rather abruptly ^{below} in places some oxidized loam. The gray loam has iron tubes, a good many some nodules of pyrites, pretty well all through down to 4 ft. lime above pyrites.

The much below (gray or black) has some chocolate streaks in it. No response to HCl.

Took samples - at x

The gray loam effervesces freely with HCl, but the yellow & the blue-gray much did not at all. Went to cut 1 (low) (- 8)

Barometer then out = 22 ft

Yellow loam (same as in 3) about 10 ft. (no effervescence)

Gray loam with strong rusty brown. A good many some nodules of pyrites

Iron tubes - (8 ft or more)

Lower part clumped.

See next page

This is clumped more at base than last year.

E. side

yellow 10

gray sand 3

11/1. 11/1.

Dark brown (clay)

N. side even more overgrown & clumped.
Did not collect fossils this time.
(See last year's notes)

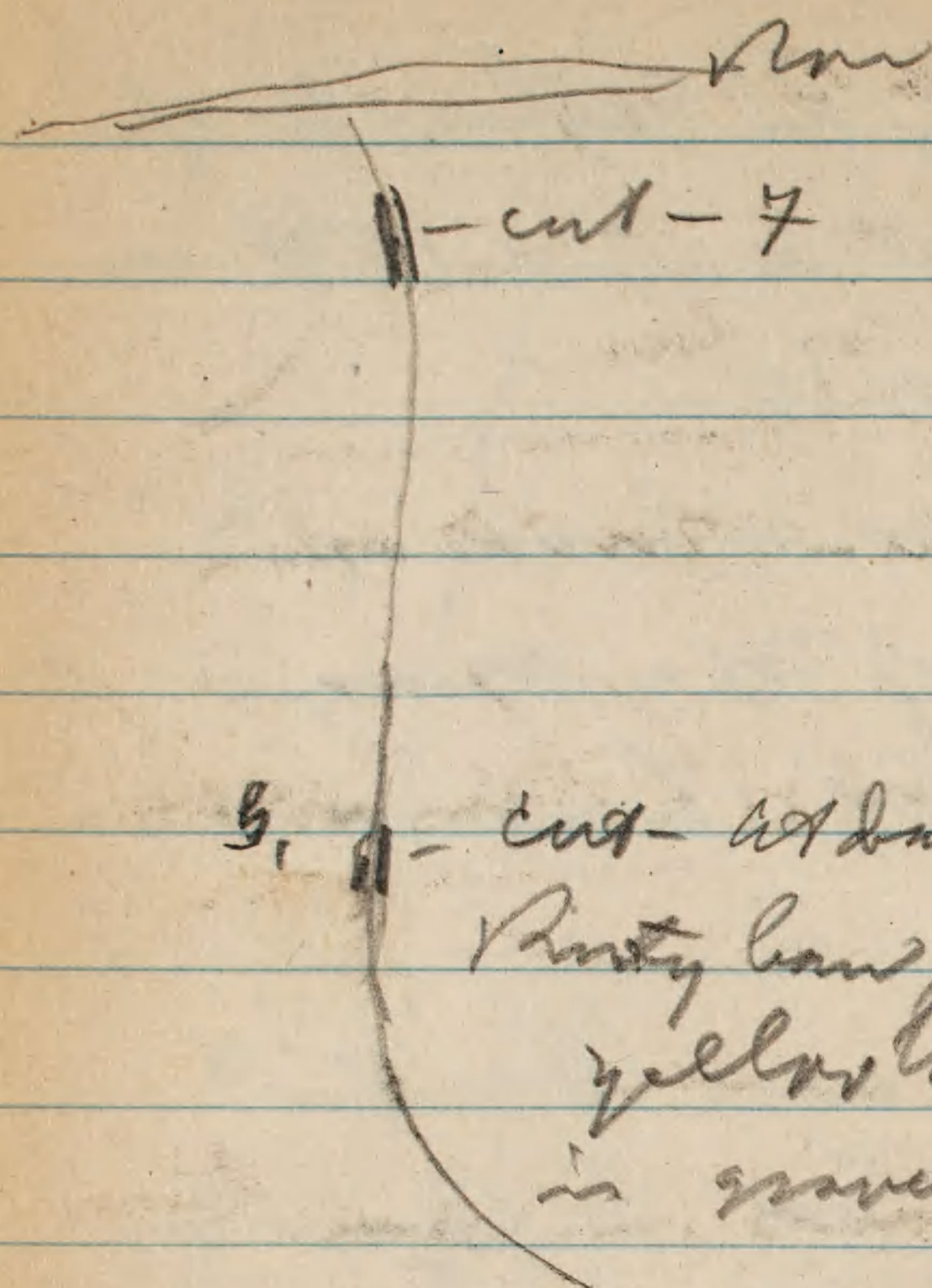
A little grass
shows along
base

Cut E. is in Elkhorn - N. of
station. It is about 15 ft on
E. side & 18 on W.

Gray loam shows on E. side up to
within 6-7 ft of top - oxidized
band marks it. Lower part
clumped.

W. side is also clumped &
overgrown, but I found a
few fossils in gray loam.
Also some rounded nodules in W.
Gray loam did not differ
within 1 ft from top, but did
freely several ft. below.
There was no difference in the
appearance (the visible characters)
of the loam in ^{the two} different parts.

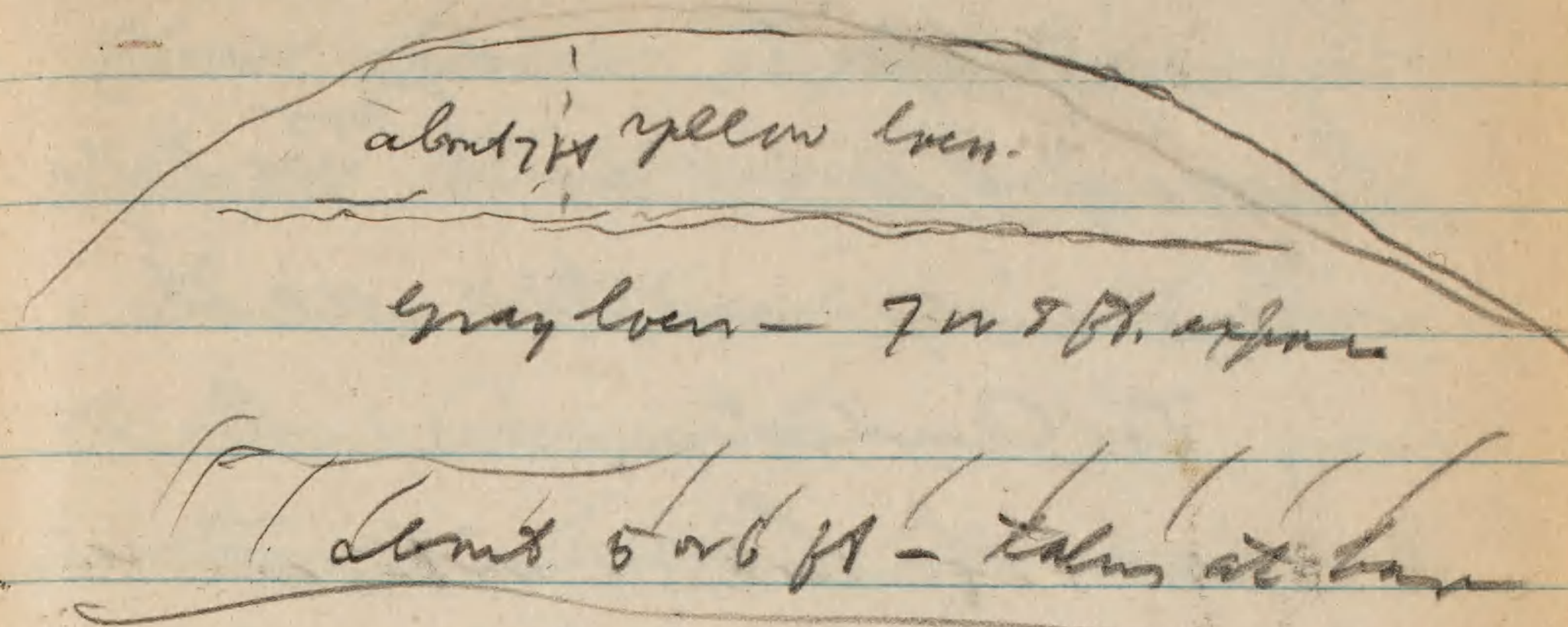
Elkhorn



B. 1 - cut - at base a little gray, then
Pinkish brown, then 5-6 ft
yellowish brown most of cut
in gravelly drift (6 ft approx)

Mr. Kues + (the agent from Des
Moines) came to Elkhorn for me.
We drove down (A) to place
where wagon road leading A,
crosses the RR. Cut 7. is
just a little way below (E) of the
road. Its lower part is
somewhat slumped, and I could
not see any drift.

Cut 7. (^{should be} cut, lower)



W. side -
Just S. of road -
a few fossils in gray brown
took samples. of yellow &
gray.

We went on down the track
a few rods to cut 9. This is
a lower cut, - on ^{lower} slope of ridge,
hence not through high part.
Its W.E. side is higher.

A brief description is given
on preceding page, with plat.

We drove to Audubon
by way of the ridge road,
leaving Kimballton to the left.

This ridge extends all the
way to Audubon, and shows
evidence of loess at various
points. The broad creek valley
to the W. is almost

parallel, and beyond is
the country looks less rough
(though I found it quite rough the
following day.) On the right
hand side the country is quite
rough in the first township, &
then is slightly less so, but
keep rough more or less all
the way to Audubon.

(see Township plat)

Nov. 5, 1921 Sat.

Spent forenoon in packing, etc.
Shipped 1 box with clay samples
& laundry to Ma, and one with fungi, etc.
to Miss Cavanagh.

Started C.W. about noon (12³⁰)

The country S & SW is rough, as
indicated on map. W. it is so for
only a short distance.

In N. E. corner of 7-Township dug
my old cut is a little deeper. It
shows a little of the ferretto
zone in the bottom of the gutter
(distinct rusty layer) & below that
I found (by digging) a gray loess²
with iron tubules. (Rock sample) It is about
7 ft. to this ^{ferretto} from top of bank.
Above the ferretto is a heavy
jointed, (lobular) yellow (with gray streaks),

clay, probably loess, though very heavy & lobular. (Both samples)

The main part of bank is obscured by old soil, etc.

We left ridge road for Top line between Sharns & Hamlin Nos. & drove S. to Church, N. of Top line.

The region S. shows the broad valley of the Elkhorn & then hills (mainly but not roughly broken) S.

E. the country is more ^{gently} rolling, not rough & W. the creek valley is bordered by rather gently sweeping contour curves.

S. of the N. 9. cor. sec 36,

Sharns Top. is a cut facing S. (just before coming to Church on next mile)

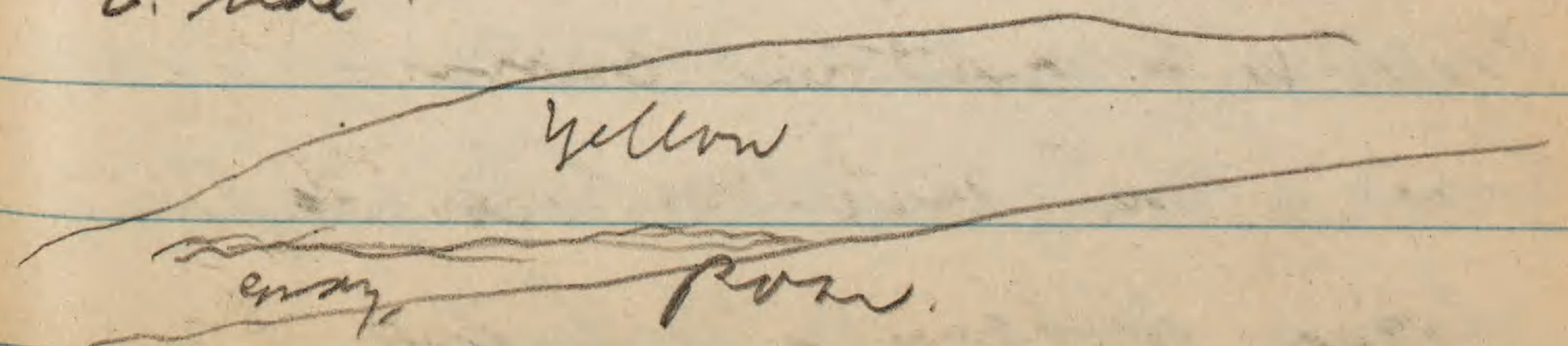
& it shows perhaps 4-5 ft of yellow loess (like in sec. 7) & toward base a couple of ft. of gray loess with iron tubes & no nodules or fossils. No nodules or fossils in sec. 7 either. The gray loess has strong rusty band above.

About $\frac{1}{2}$ mile N. of N. cor. sec 36 Sharns Top. there is a slope facing N. which shows yellow loess, ferrites & gray loess as in preceding & in sec. 7.

Yellow about 6 ft (with soil)

Ferrites - 3-5 in.

Gray loess $1\frac{1}{2}$ ft. exposed E. side.



Evidently all this upland was prairie, & hence no fossils.

(quite)
 On the high hill S. of creek, on
 E. side N.E. $\frac{1}{4}$ sec. 25, Sharon Twp.,
 the drift (rusty, pebbly & with some
 boulders) shows more than $\frac{1}{2}$ way
 up the hill. Then heavy yellow
 loess (grazes below) shown &
 I saw no gray loess.

Evidently, there is only a thin cap.
 The other slope N. seems to be similar.
 The rather low end on very steep hill (facing N.)
 on E. side S.E. $\frac{1}{4}$ sec. 24, shows drift
 more than $\frac{1}{2}$ way up, & on top yellow loess.

On the steep hill S. of N.E. cor
 sec. 24 Sharon Twp., the drift
 runs nearly to top (less than $\frac{1}{4}$ from top)
 yellow loess, with a little gray at
 base (no berretto, but grading)
 shows well up the hill.

On E. side N.E. $\frac{1}{4}$ sec. 13-29-36
 (Sharon Twp.) on a long, rather gentle
 slope about $\frac{1}{2}$ way up, an
 exposure of gray loess appears.

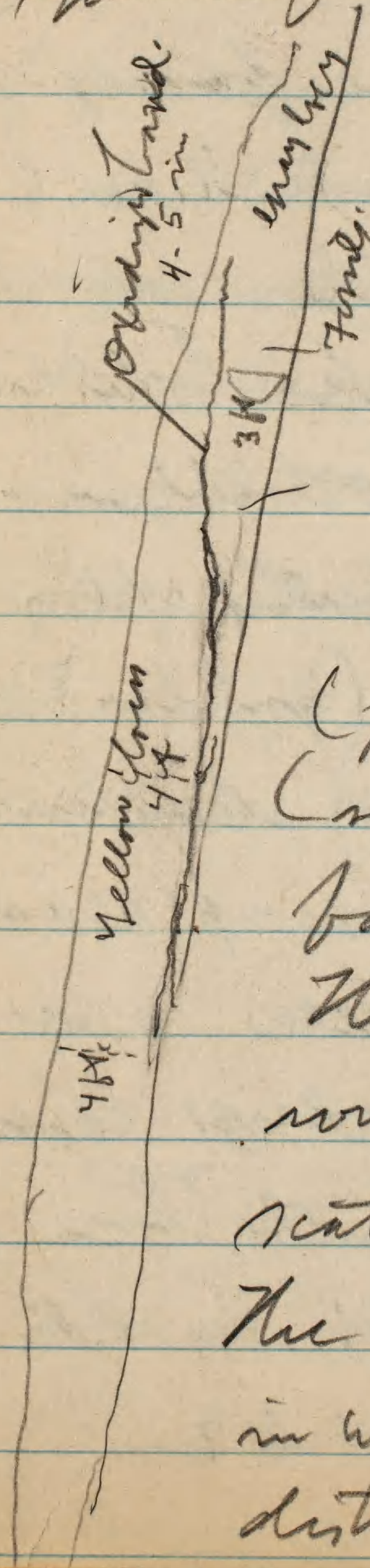
The gray gave
 effervescence with HCl
 below, but not a
 few inches from top.

Yellow - no effervescence.

The yellow is lobular
 (jointly) streaked with gray
 (similar to sec. 7), no
 joints or nodules.

The gray has iron tubes
 rounder nodules (see spec.) &
 scattered shells. (see lot)
 The oxidized belt is 4-5
 in wide & quite uniformly
 distinct. (see samples of gray & yellow loess)

on E. side



This was evidently on lower slope,
in valley, & there was probably
a thicket here,
Farther South down slope towards
creek, drift is exposed.

A long cut up slope to N. on E. side
Q. 2' 1/4 S. 1/4 sec. 12-79-36 - shows drift
almost to top, & there what looks like
a thin cap of yellow loam appears.

View to NW. shows gently rolling surface.
On the slope just N. (going down) some
gray loam (iron tubes) shows under
yellow. The next slope up also shows
gray loam under yellow, & all
these ridges show drift lower down.
The loam is evidently thin.

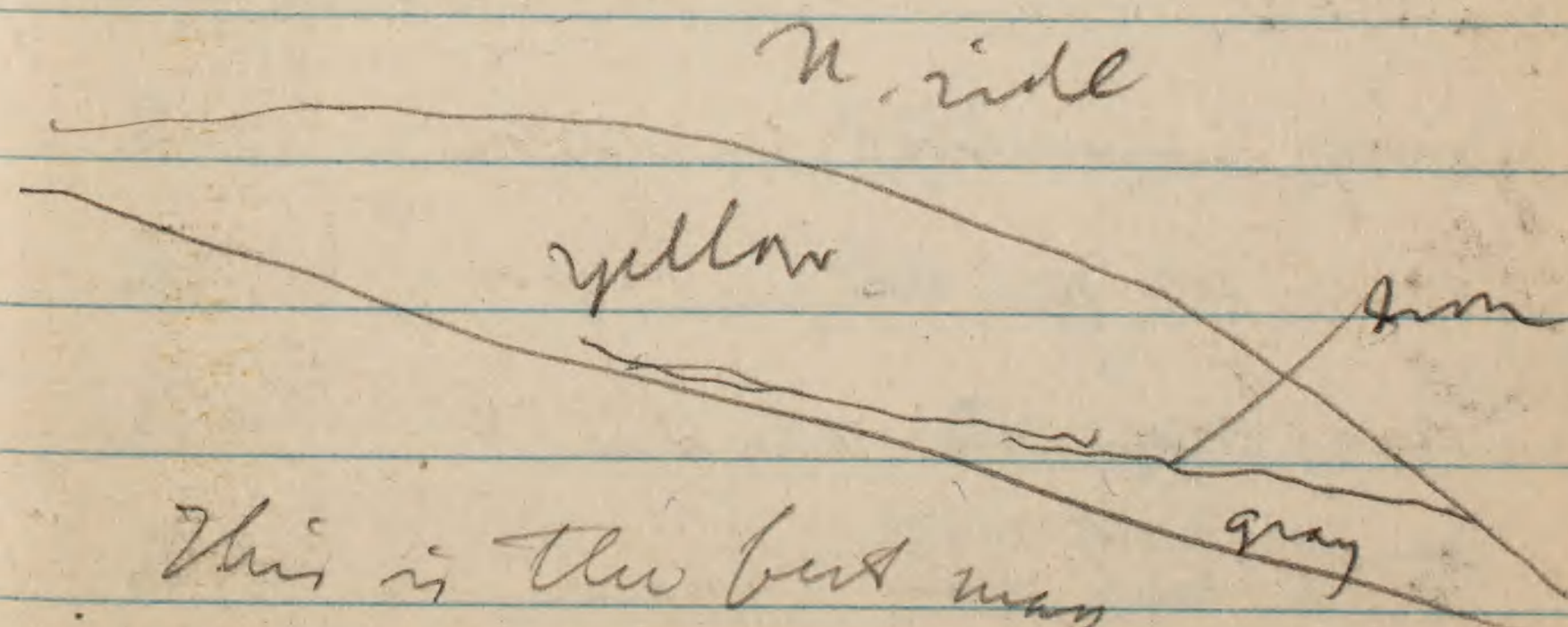
N. from S. part of sec. 1 the country is
less rough than E. & S.E.

Turner W. on S. side sec. 1

On S. side S. W. 1/4 S. 1/4 sec. 2-79-36,
On E. slope, drift runs high up a
steep hill, near top a little
gray loam appears below 5-6 ft
of yellow.

On S. side S. E. 1/4 sec. 3-79-36
a good cut (up hill again) shows
gray loam in lower 1/3 - Iron tubes,
some lime nodules, - columns -
shells, but looks like there might be more.
2 or 3 ft exposed.

Above, 6-7 ft of yellow loam.



This is the best mass
of loam seen today, to present
time.

Nov. 6, 1821 Sunday

Started from Harris.

Started in large cut on Twp. line
(at windmill) on C M & St. P.

The cut is somewhat lumbered
in places, but shows the various
elements in a number of places.

The strata run irregularly.

collected shells in the gray
loess near viaduct, on N. side.
Yellow seems to have none.

A - With H. Cl. - No efferves

B. - " " "

C. - " " Effervesc. freely

2, - " " " No egg.

21- " " " no effern. { sent to colored
no eff.

7. - " " " upper foot no eff.
lower part " "

9. " " , Effluents fresh

N. side
 out about 11 pole layers long
 This last part is about 5 poles long
 1198
 B 1185
 Rusty, pebbly drift yellow where
 with small boulders. weathered
 1177
 dark blue, black, muddy (also weathered)
 soil band (?) (no!)
 1169
 Dark slate color muddy stuff
 1154
 3 poles S. Pebbly & bouldery drift
 1140. 8 pole
 RR. 1140. 8 pole
 The section is just opposite 3 poles
 (90) from bridge

A + B. show nearly here (over 2 mm) - see W. end.

D- Is a dark jointed drift, very like
Neb. in appearance. It contains
pebbles & small boulders, but
rather scattered.

F². A dark mass, more or
less laminated.

(Estimated heights - independent of basins,
going up)

A 10 or 11 ft.

C 10 or 11 ft.

D 5 ft. (1 ft. or 2 ft.)
E 7 12 ft.

14 14 ft.

R.R.

Towards W. end took fossils
from gray loam & samples of
2 loams.

The gray loam sits on a dark
slaty stuff like 7, a foot or two,
& then the drift 9.
There is a pebble in 7.

On D. side thin cut runs
3 ft. into Cranford CD.
Cut is not so deep.
On W. side it runs out
into W. of bridge.

The gray loam has iron tubes
& practically no nodules.

Found many spec. of shells all
in lower 10 ft. (see sample
To right (at D) the yellow
loam below is heavy, gray streaked &
the gray

Took sample of gray loam
6 ft. above 7. Also of
the heavy yellow at same
level to right.

Took another sample of yellow
loam 10 ft. higher - no effort
the lower yellow sample
shows few nodules.

Entered stream on loam &
drift clay surface.
This cut is across a broad ridge, running
just a little W. of N.

1st cut W. of Aspin walls

Yellow upper loess in lower, hidden
with gray - about 9 ft with
soil. Many nodules (no

samples - some) & scattered shells
also small pits & thinning

Oxidized layer irregular but distinct
4-6 in.

Gray loess with few nodules &

few shells. About 5 ft. at
middle of cut.

10 poles long on S. side (less on N.)

Yellow loess
9 ft

Gray loess
14 ft

14 ft

N. side

Gray loess
14 ft

Drift

Drift

There is a rusty
brown loam
thinning down into
Ransom (red sand)
& above it is 4 or 5
in. of chocolate loam
The yellow loess
has many rounded
nodules, &
fossils scattered
through

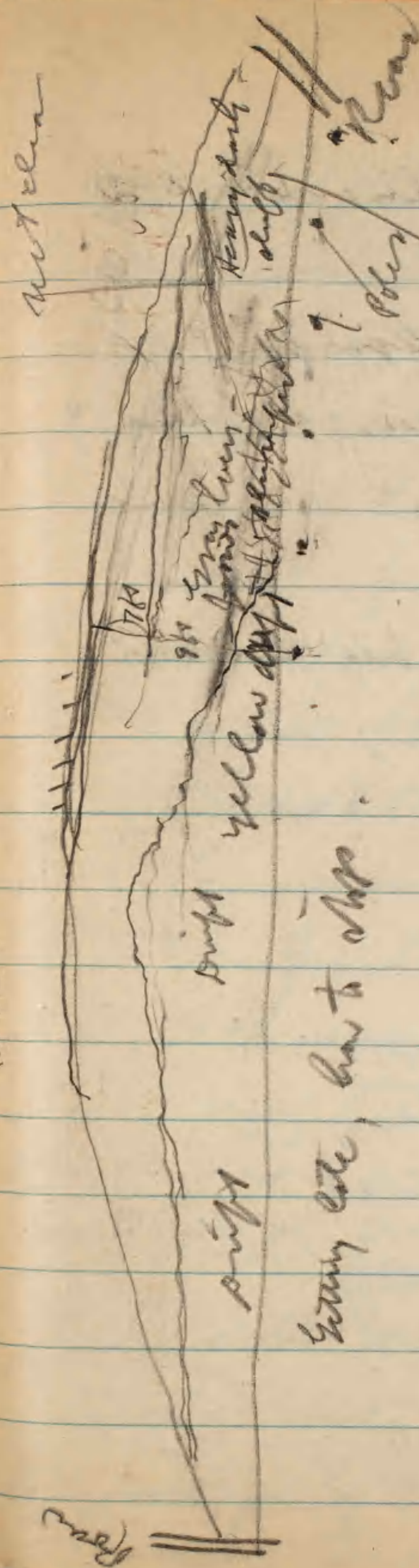
S. side is very
similar but
thinner & more
drift. It is
a little lower.

2nd cut W. of Aspinwall St.
cor. sec. 9-

At E. end a long stretch of
gray limestone - nodules, tubules &
fossils (Lymnaea, etc., evidently
a wet place)

Cut runs a short distance
into sec. 8.

road



The S. side of cut shows less
clearly, but along the 7th, 8th, 9th & 10th
Pole lengths drift is high up
a few medium boulders appear

Similar to 7
in preceding

Nov. 7, 1921 Mon

Drove from Mason's to Manning
where I left my baggage.

Drive cut in S.W. cor. of sec. 9,
W. of Aspinwall.

rocks from E. end.

Opposite (coming from hole just W. of
bridge (on S. side sec.)) end of 5th
hole length W. of E & W. bridge.

yellow loam
7 ft

gray loam 9 ft
fossils

about 7 ft { Rusty, sandy & somewhat pebbly
shades below into rusty, pebbly drift.
Few medium boulders.

The gray loam shades below quite
abruptly into rusty, sandy stuff.

The "yellow" loam is quite heavy,
much gray, with rusty clonings & tubers.

Upper (oil) part seem to be brownish

The fossils in the gray loam up about
W $\frac{1}{2}$ of 5th pole length W. of
bridge are chiefly *Ammonia*
ovata & *Vallonia* (large), & a few
Encrinurus *fulvus*, *Vertigo* & *Pyram.*
striatella.

In the lower part, off W $\frac{1}{2}$ of
4th pole length, there are
Cymatoceras, etc., & evidently
this part was water.

All along, especially under the
S. side of cut, water seeps
out now.

The bank in 1st - 3 $\frac{1}{2}$ pole
length W. of bridge seem to
be made up of the dark
mucky stuff (see sample)
Is this an old pond?

That dark much is not quite
like 7. It is very lobular
(jointed), somewhat rusty, &
it appears as if the gray
loam shaded into it laterally.

The upper part seems to be
yellowish (probably yellow loam
washed on top)

This was all loam, &
probably a bog or
pond was here.

At 7th pole (holes 100 ft or so)
the drift has risen to within 6 or
8 ft of top.

6 loam yellowish
gray green
5 heavier yellowish
loam

drift 23

Modules are very common in
the fine-grained gray loam, & most
abundant where most fossils.

Opp. end of 7th pole. The
loam rests on same rusty, sandy
loam as at 5th pole &

The lower 6 ft. of loam are
heavier yellow. No modules,
but gray streaks abundant.

Saw 1 suc. avicula on surface ~~near~~
base of yellow (lower) layer.

May have come from this part,
but saw no others. Lost at
found better place, with suc. avicula

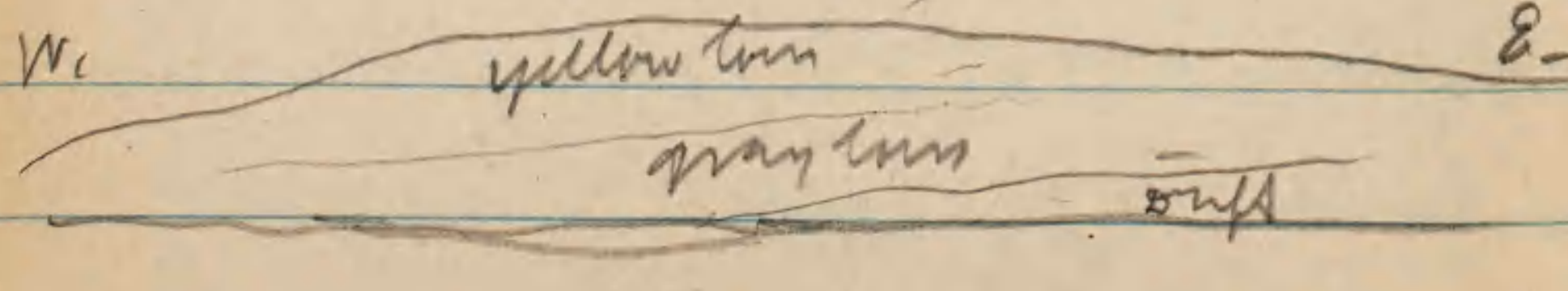
& Pyram. striatella (few). This loam
is gray loam (4 or 5 ft) & has few
fossils. (See fossils & sample of gray)

At 13th pole length (end of it) is
N. & S. bridge. The drift

runs high all the way to
bridge, though the cut drops
in depth, its highest part
being about between 7th pole level
& end of 9th (or 9½) pole lengths.

Evidently a little gray loam
runs up over nearly (or) all
the higher drift. Can see
gray bits here & there.

About 4 pole-lengths of this cut
run into sec. 8, but it is here
low (about 10-12 ft?) & shows
(on N. side) a little drift below
& two loams (lower, grayer, with
nodules & fossils.)



The next cut, in sec. 8, begins
just a little E. of 9th pole beyond
40 A. line W. of E. line of sec.
(This is N. side. S. side is
probably E. 2 pole lengths and
a high bank.) Poles are about
110 ft. apart.

Took elevation opposite middle
of 2 pole length.

A2

13

8 pole last, about

over

196A

234

Yellow

12

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very heavy

Remedy 34

Liney-Loft

七

127A

QMR,

1109

36

~~11/10~~

The mty is a chocolate brown color where weathered

The S. side of cut seems to be very similar

At no. 1. The top has about
2 ft. of soil & brown stuff, shading
down into yellow loam. The
latter has no limestones & no
nodules, neither (soil or yellow loam)
effervesces with HCl.
The yellow loam (esp. below) is
rather heavy, with rusty clots
& grayish spots, but mostly
yellow.

The oxidized band below is
distinct, 2-4 in, & change to gray
green is very abrupt.

The gray loam has inclusions (many)
+ a few nodules. A few fossils.
The gray does not effervesce.
Less than a foot of base of
gray loam is the chocolate layer
alternating darker + gray

Below is quite abruptly, is
a rusty layer, clayey, 1 ft or
more, shading down into rusty
drift, very pebbly, few small
boulders, (see Q.) & below is
effervescence very freely.

Over 3 ft. of top of drift is
this very rusty stuff, with some
& few pebbles & sandy, & no lime.
Below that the drift is very
limy.

A sec. S. the yellow loam is heavier
& with gray below, (below) has
rounded nodules & fossils.

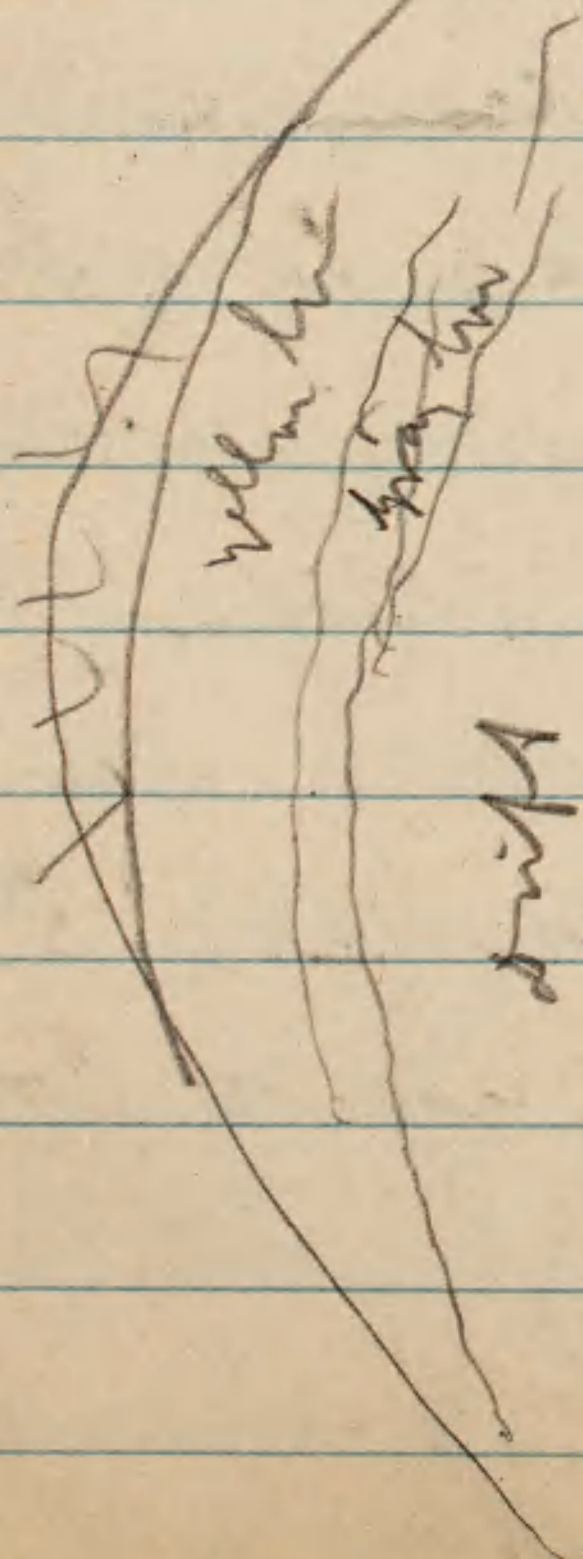
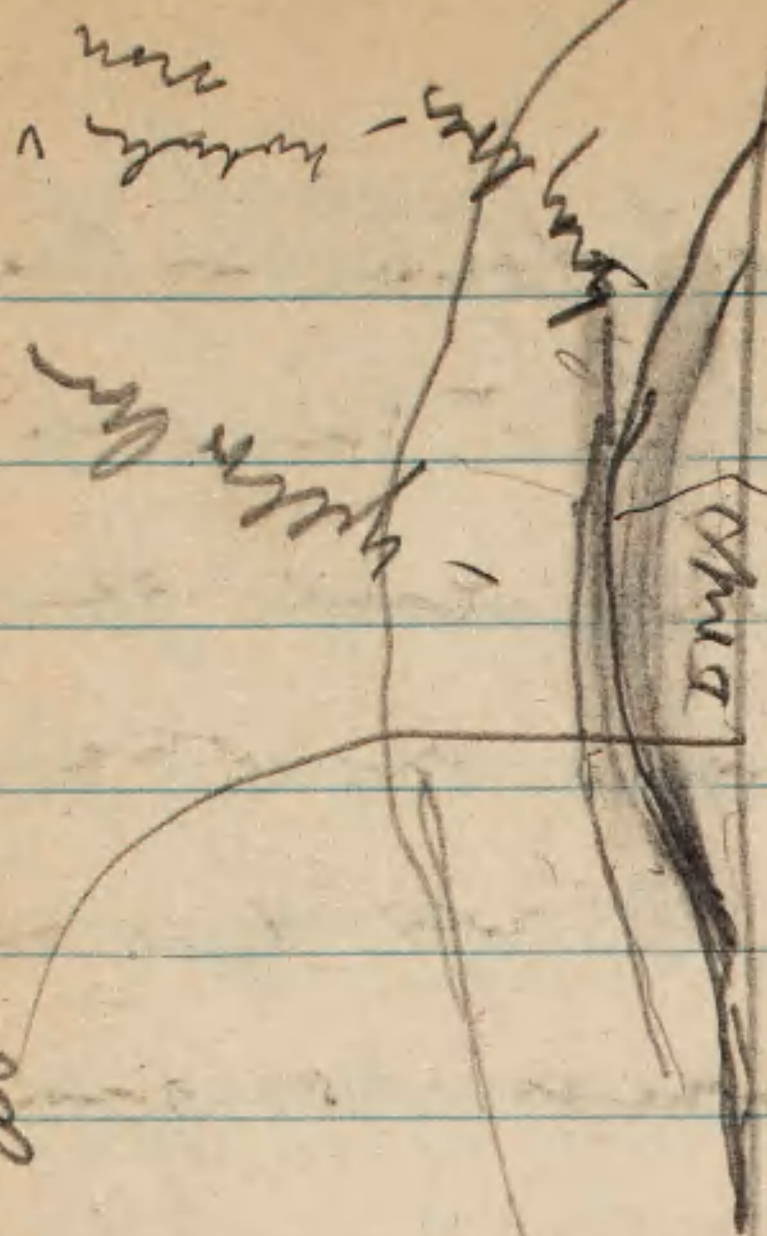
The gray loam is separated
from it by a narrow broken
rusty band (a foot or more of
transition). The lower
part of yellow & the gray here

freely responds to HCl. (loam
deeper here)

Work sample of forming yellow
5 ft above it here. Found fossils
up to within 7 ft of top.

Small rounded nodules in
The part having fossils
The cut in sec. 7, down
top is over 7 pole lengths long, &
on S. side is continuous, but double
on N. side. Somewhat irregular,
but showing drift, gray loam
& yellow loam as before

about 1818



↑ 1818
road
stream
hill

Look of time prevented closer examination

The two last big cuts, on great curve in 2nd mile above Manila, show drift & loess. The W. one shows rusty drift & then a grayer drift (original Kansan) below.

The other seems to have only rusty drift.

1 Survey to Manila
Took train at 1:15 for Defiance.

No cut to Defiance, RR in valley.

Reached Defiance at 1:35 PM
After lunch went down the track.

Cut 216 is overgrown, has not dumped. Would be easy to clean.

It is much smaller than 217.

Cut 217 is still in good condition. There have been small slumps, and parts are overgrown, but it is easy to clear what is desired, & much is exposed.

This cut (on S. side) is just about
12 pole lengths long.

Opposite the middle one (first corner way) I made section:

yellow loc. 23 ft

Oxidized band.
— Distinct but not
sharp.

about 8 ft

about 6 in. of chocolate

gray loess.

about $2\frac{1}{2}$ joints

Drift. 115 ft.

The gray ends above in a
a band 5-6 in wide quite
silty but not sharp, & in
another 5-6 in. grading into
yellow above.

all of the gray, including the
rusty layer, effervesces.

In lower 1 ft. The upper, yellow
loam effervesces very little

one pole farther S.W. (at
highest pt.) the surface is
about 2 ft. higher than
where this one is taken.

Yellow loam $2\frac{1}{2}$ ft. below top, no
effervescence.

About 6 ft. down, no efferv.

A few shells are scattered through the yellow to within a few ft. of top.

Loess, etc. points.

Very commonly the lower part of gray loess has no fossils.

Fossils of gray loess are very commonly softer and more friable than those of yellow loess.

The gray loess effervesces.

The lower part of yellow loess has brown (almost black) spots & streaks, some gray, and is quite compact.

Upward the loess is lighter, looser,

Took samples of yellow loess - ^{softer} 3 ft. top

softer - 9 " "

Rather firm - 15 " "

Hard - 2 ft. from bottom

The lower part of the drift effervesces freely. Quite loose.

It seems to be Kansan, rusty on surface, bluish within, with much rust.

also took sample of gray loess, 2 ft. from base, chocolate color.

Rusty layer 1 1/2 ft. below chocolate.

There are lots of lime nodules throughout the lower part of the Kansan - the

lowest 5 or 6 ft. -) southern
10 or more ft.)

At N. end on W. side the
gray loess is quite thick &
has many nodules, (see sample)
& iron tubes, but very few (if any)
fossils. Saw fragments only.

There are few round nodules
in gray loess of main
part of cut.

My middle section is a good
5 pole length (110 ft) N. of
S. end of cut, & a scant 5
poles S. of N. end.

The W. side runs down lower
at N. end, & both sides are
a little short of 5 pole length
from "center".

This cut is the same as
a number of those in Crawford
and Carroll co. Yellow loess,
gray loess, chocolate loess,
rusty nodular drift,
Rusty drift. (& in some cases
a blue-gray drift.

Usually fossils are most
abundant where lime
nodules are plentiful,
but at N. end of cut
216 there are plenty of
nodules, but practically
no fossils. The gray loess
is commonly thicker on
lower slopes, & thin out
upward.

Had 2 meals at Downing Hotel, & left
for Manning at 8¹⁴ Pm.

Nov 8, 1921 Tues

Arose at 4:15 AM, expecting to go to Karlan in the 5:02 AM train. The busman failed me, and it was so stormy that I went back to bed, - in the Park Hotel at Manning.

Arose at 8:30. It was snowing, and the ground was more or less whitened far to the east. Left Manning at 9:54 AM, via the C. M. & H. P. Ry.

Just beyond Corn Rapids we enter Wisconsin Lake.

Just before reaching Cambridge cuts appear, & E. of mine there are some large cuts. (See them.) - Some timber on bottom at Cambridge.)

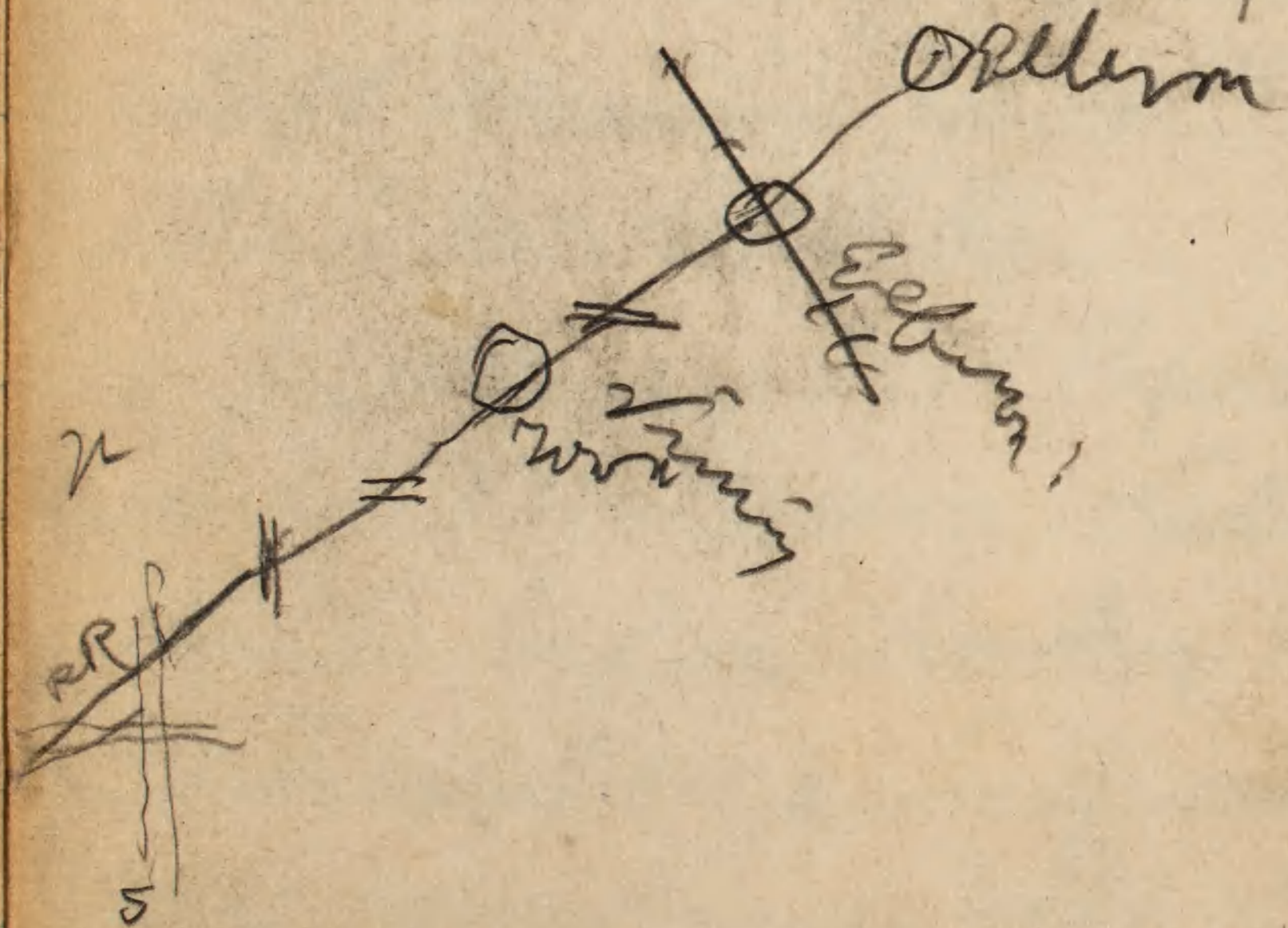
At Maxwell a brown flint valley. Some timber some good cuts within 2 miles W. of Melbourne. (see p. 1)
W. of Virning - good cuts also E. (p. 1)

⁴
 Lve. Botna arr. Manning lve. am. Aspinwall Manila Defiance
 9:45 am, 9:57 4:29 am 12:37 pm 4:50 1:00 - 1:30
 12:47 5:15 am, 5:55

Lve. Defiance am. Manila Aspinwall Manning
 9:05 am, 9:25 9:35 9:43 - 9:54 am,
 2:20 pm 3:00
 8:13 pm 8:30 8:45 9:07.

²³
 Lve. Manning Botna Harlan lve. am. Minden lve. am. Ia Co.
 5:02 am, - 5:49 9:11 am, 7:55
 1:35 pm, - 2:21 4:20 pm 12:25 a
 7:43 pm 7:52 8:31

an. Ayora lve. am. Ia Co.
 CR & P. RR
 6:10 am, 6:55 9:40 am, 7:55
 10:45 am, 11:30 4:55 pm 12:25



E.O. Thorson, Akron, O.
 Dr. C.E. Wright, Clear Lake.
 Patterson, Correctionville.
 J.H. Halford, Manning.
 C. Free, Spencer.
 J.H. Cline, West Union.

M.N. Hall, West Union (naturalist).
 Check Manning to Cedar Rapids
 Nov. 8, 1924 T 247342
 G

Atlantic
 plates
 Bones
 Bones
 white to lime
 " " ma.

yell. loam 7 ft.
 Gray - 5 ft.
 Kannon (yellow) 5 ft.
 gray drift
 apt. soil loam 4 in
 sub. granitic 13 ft.
 drift (sub.) sands 2."
 " " sandstone 17"

